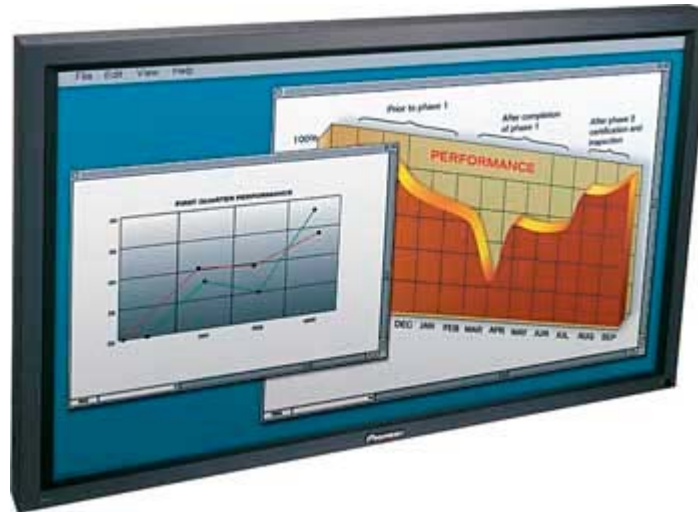


Product Training Guide

PDP-503CMX



Multimedia & Web Training Department
545 Nolan Drive Suite 100
Southlake, Texas 76092

Pioneer
SERVICE

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Preface

This technical training guide will address the disassembly and adjustments of the Pioneer PDP-503CMX Plasma Display.

This guide was designed as a servicing aid and is not intended to replace the service manual. The student should have the appropriate service manual on hand when using this guide. Data in the service manual for this unit contains specific information on safety, parts and adjustments.



Safety information

Important safety data for this Pioneer model is contained in the service manual. Before returning the unit to the customer, complete all product safety obligations and tests. Technicians who bypass safety features or fail to carry out safety checks may expose themselves and others to possible injury, and may be liable for any resulting damages.

For more information on electronic circuits and block diagrams refer to Service manual ARP3093

Lead in the solder used in this product is a known reproductive toxicant which may cause birth defects or other reproductive harm. (California Health and Safety Code Section 25249.5).

When servicing this or handling circuit boards and other components which contain solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

List of New Functions

1. Out of Menu Mode

AUTO SET UP

- A function to adjust SCREEN mode automatically.
- The results of the adjustment is reflected on SCREEN value in Menu Mode.
- It functions only in case of PC signal input. (INPUT 1 or 2).

POINT ZOOM

- A function to magnify a display picture.
- The magnifying powers are 1.5 times, 2 times, 3 times, and 4 times
- When setting "POINT ZOOM", the picture size becomes "FULL mode".
- It functions only in the case of PC signal input.

Levels Display

- A function to display a setting content in OPTION menu.
- It displays by pressing the "DISPLAY CALL" key more than 2 sec. during an OSD display by usual DISPLAY CALL.
- Able to control this function using a new RS-232C command (DS2).

STILL

- A function to make a still picture from a present picture on the monitor.
- Able to set up using RS-232C command (SLY/SLN).

2. In Menu Mode

AUTO FUNCTION

- A function to switch to this input automatically, when a signal is inputted to the input which was selected by this setting. Automatically it goes back to previous input when there is no input signal in the input.
- This function works only with “INPUT1” and “INPUT4”.
- For the “INPUT1”, this function works only with Composite SYNC and Separate SYNC.

POWER CONTROL

- To switch the settings “Normal Display”, “Linear Brightness”, and “Power Save”.
 1. Normal Display : Almost the same as PDP-502 setting “ABL ON”
 2. Linear Brightness : Almost the same as PDP-502 setting “ABL OFF”
 3. Power Save : New function from PDP-503
A function to lower the peak brightness and lowers power consumption.
- Able to set up using RS-232C command (1: PWN / 2:PWS / 3:PWL)

INPUT LABEL

- A function to change “INPUT LABEL” of each input.
- It is able to set up max. of eight letters.

PURECINEMA

- A function to convert 480i to 480P based on 2-3 pull-down data.
- There are three settings; OFF, STANDARD, and HQ.
- Able to set up input signal NTSC/480i only
- Able to set up using RS-232C command (PUN/PUS/PUH)

DIGITAL NR

- Setting up digital noise reduction.
- There are four settings; OFF, LOW, MIDDLE, and HIGH.
- It is effective only in the case of a VIDEO (NTSC) signal input.
- Able to set up using RS-232C command (NRN/NRL/NRM/NRH)

COLOR TEMP

- A function that changes setting of the colors TEMP.
- There are six settings: LOW (approx. -3000K), MID LOW (approx. -2000K), MIDDLE(+/- 0K), MID HIGH(approx. +1000K), HIGH(approx. +2000K)
- It is effective only in the case of a VIDEO (NTSC) signal input.
- Able to set up using RS-232C command (CT1/CT2/CT3/CT4/CT5)

3. Integrator Menu

OFF TIMER

- A function to switch to Stand-by mode after a set time.
- This setting has OFF,
TIMER (1 to 24H/ every 1H)
MASK (0.0 to 9.5 H/ every 0.5 H)
MASK Color (WHITE /RED / GREEN/ BLUE)

2 by 2 mode

- A function to make temporally 4 screen multi-display.
- This setting has ON or OFF and display area (upper left/ lower left/ upper right/ lower right).
- Able to set up using RS-232C command (MGY/ MGN/ MG1/ MG2/ MG3/ MG4)

ORBITER

- A function to control burned display by shifting picture location for every moment.
- The setting has ON or OFF
- Make the picture location shift one dot by one dot horizontally or vertically every eight minutes.
- Able to set up using RS-232C command (OMY/OMN).

INVERSE

- A function to control burned display by reversing output picture.
- The setting has ON or OFF.
- Able to set up using RS-232C command.

ID SET

- A function to set or change ID No.

MONITOR NAME

- A function to register a name with each unit.
- Able to set max. of twelve letters.
- Able to confirm the name by Display Call/ GET command

HDTV Mode Setting

- A function to set actual line number in HDTV (1080i/1035i)
- Able to set this function when signal mode is "12/13"
- Able to set up using RS-232C command
(1080i=H80/1035i=H35)

4. Service Factory Menu

Displaying / Setting Pulse Meter

- A function to display or set the present pulse meter.
- The display is ten million unit
- The setting is hundred billion unit.
- Able to set up using RS-232C command.
Pulse meter display: PMD
Pulse meter setting: PMS+ XXX

Writing setting in EEPROM for Plug & Play use

- Releasing Write-protection of EEPROM for Plug & Play use.
- Able to set only in service factory mode and RS-232C factory adjustment mode.
When it exits the above modes, it returns to Protect setting.
- Able to set up using RS-232C command.
Write protect release: EWY
Write protect setting: EWN

5. RS-232C

Picture mute ON/OFF setting

- A function to set Picture MUTE on or off.
- No Last Memory function.
- MUTE is canceled when other operations are conducted.
- Able to set using RS-232C command only.
- It is effective in case of only Normal mode/ RS-232C adjustment mode/ RS-232C factory adjustment mode.

Drive ON / OFF Setting.

- A function to set Drive circuit on or off.
- There is no last memory function. (After turning off a unit, this setting is canceled)
- Able to set using RS-232C command only.
- The command is effective only in Standby mode and RS-232C factory adjustment mode.

100 % display mode setting 100%

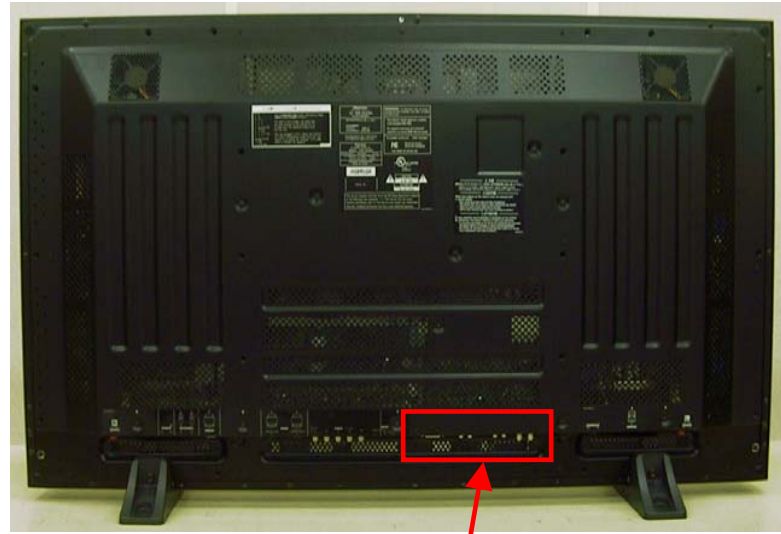
- A function to change screen display into 100 % display.
- It functions only in case of VIDEO signal.
- All of menu modes are prohibited during this setting.
- Able to set up using RS-232C command only.

Basic Specification

| | PDP-502MX/MXE (Current model) | PDP-503CMX | PDP-433CMX |
|-----------------------|---|---|---|
| Screen size | 50inch | 50inch | 43inch |
| Aspect ratio | 16:9 | 16:9 | 16:9 |
| Number of pixels | 1280(H) 768(V) | 1280(H) 768(V) | 1024(H) 768(V) |
| Pixel pitch | 0.858 mm (RGB) 0.808 mm | 0.858 mm (RGB) 0.808 mm | 0.930 mm (RGB) 0.698 mm |
| Gradation | (256 gray scale) | (768 gray scale) | (768 gray scale) |
| Brightness | 560cd/m2 | 800cd/m2 | 800cd/m2 |
| Contrast ratio | 560:1 | 800:1 | 800:1 |
| Viewing angle | H: More than 160° V: More than 160° | H: More than 160° V: More than 160° | H: More than 160° V: More than 160° |
| Fan | 4 | 2 | 2 |
| Front filter | Acryl | Glass | Glass |
| Power requirements | MX: 100~120V 50/60Hz MXE: 100~240V 50/60Hz | MX: 100~120V 50/60Hz MXE: 100~240V 50/60Hz | MX: 100~120V 50/60Hz MXE: 100~240V 50/60Hz |
| Power consumption | 470W | 380W | TBD |
| Effective screen size | 1098mm 620.5mm | 1098 mm 620.5 mm | 952.3 mm 536.1 mm |
| Dimensions | 1218mm 714mm 98mm | 1218mm 714mm 98 mm | 1070mm 630mm 98mm |
| Weight | 40.3kg | 38.9kg | Less than 30kg |

NEW Features/Benefits

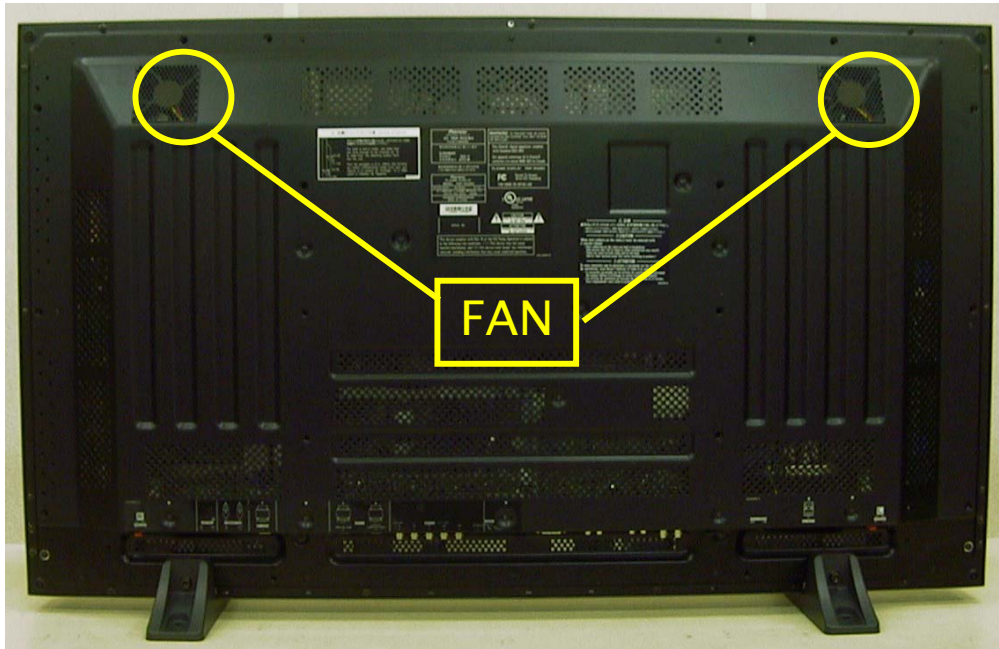
- PDA-5002
 - When installed it adds Video, YC, and DVI input, as well as enabling High Definition.
 - Card manufactured and supported by Pioneer.



PDA-5002



Rear View & Terminals



503CMX

RGB/BNC*5 In x1
RGB/D-Sub In x 1
RGB/D-Sub Out x1
Audio/Mini LR In x1
Audio/Mini LR Out x1
Speaker LR x1
Control
RS-232C/D-Sub 9 x1
SR/Mini In+Out x 1
Combi/Mini Din 6 In/O x1



PDA-5002 (VIDEO CARD)

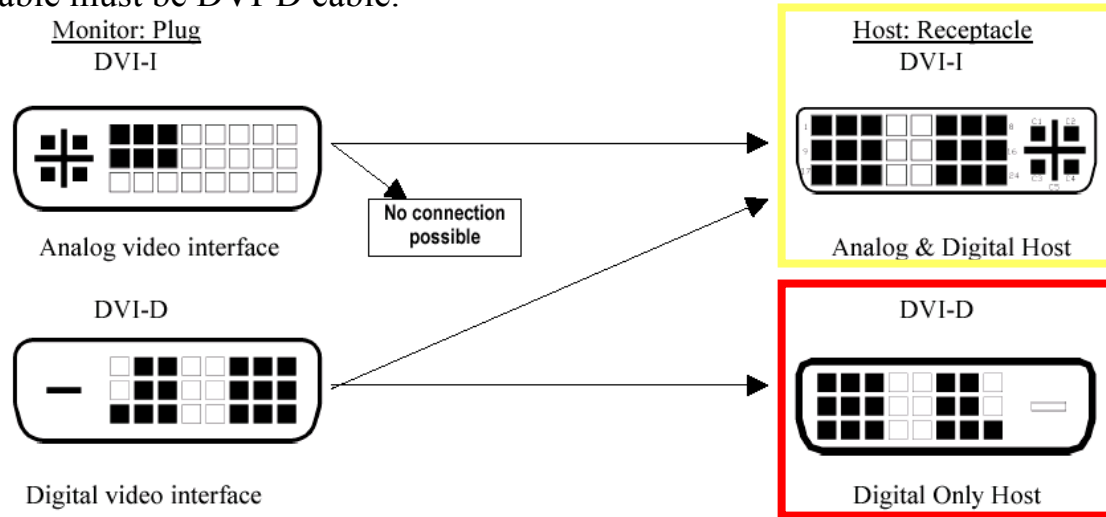
PDA-5002

DVI-D In x1
YC/S VHS In x1
Composite/BNC In x1
Composite/BNC Out x1
Audio LR/RCA x2



DVI-D interface for PDA-5002

There are two types of DVI interface; DVI-D and DVI-I. PDA-5002 has DVI-D input. Which means this terminal can only accept Digital RGB signal. Also the cable must be DVI-D cable.



DVI-I : Combined Digital and Analog Pin Assignments (Yellow square)

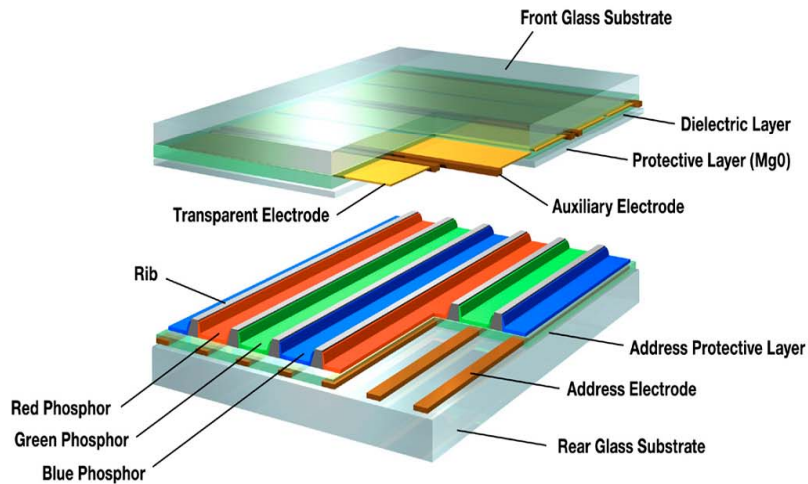
| Pin | Signal Assignment | Pin | Signal Assignment | Pin | Signal Assignment |
|-----|------------------------|-----|---|-----|----------------------|
| 1 | TMDS Data 2- | 9 | TMDS Data 1- | 17 | TMDS Data 0- |
| 2 | TMDS Data 2+ | 10 | TMDS Data 1+ | 18 | TMDS Data 0+ |
| 3 | TMDS Data 2/4 Shield | 11 | TMDS Data 1/3 Shield | 19 | TMDS Data 0/5 Shield |
| 4 | TMDS Data 4- | 12 | TMDS Data 3- | 20 | TMDS Data 5- |
| 5 | TMDS Data 4+ | 13 | TMDS Data 3+ | 21 | TMDS Data 5+ |
| 6 | DDC Clock | 14 | +5VDC Power | 22 | TMDS Clock Shield |
| 7 | DDC Data | 15 | Ground (return for +5, Hsync and VSync) | 23 | TMDS Clock + |
| 8 | Analog Vertical Sync | 16 | Hot Plug Detect | 24 | TMDS Clock - |
| C1 | Analog Red | C2 | Analog Green | C3 | Analog Blue |
| C4 | Analog Horizontal Sync | C5 | Analog Ground (RGB return) | | |

DVI-I cable can not be used for PDA-5002.

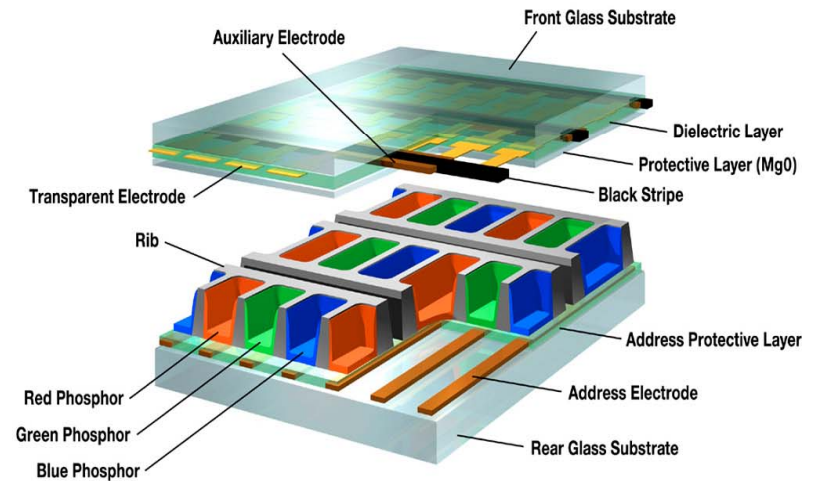
Technical explanation on the new features. - Higher luminance and contrast -

Higher luminance is realized by changing the cell structure.

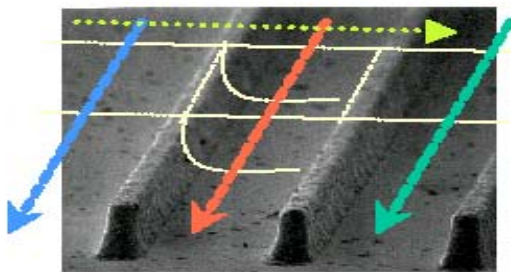
Cell Structure Comparison



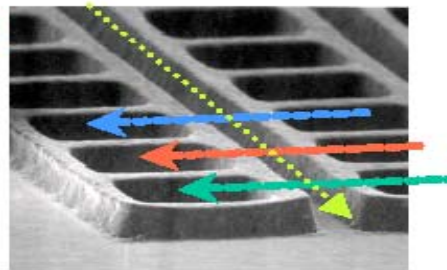
Conventional straight-type cell structure



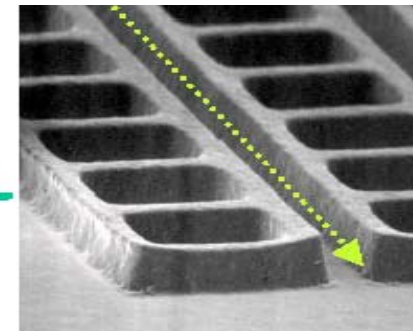
Pioneer Boxed Cell Structure



Conventional PDP
(PDP-501)



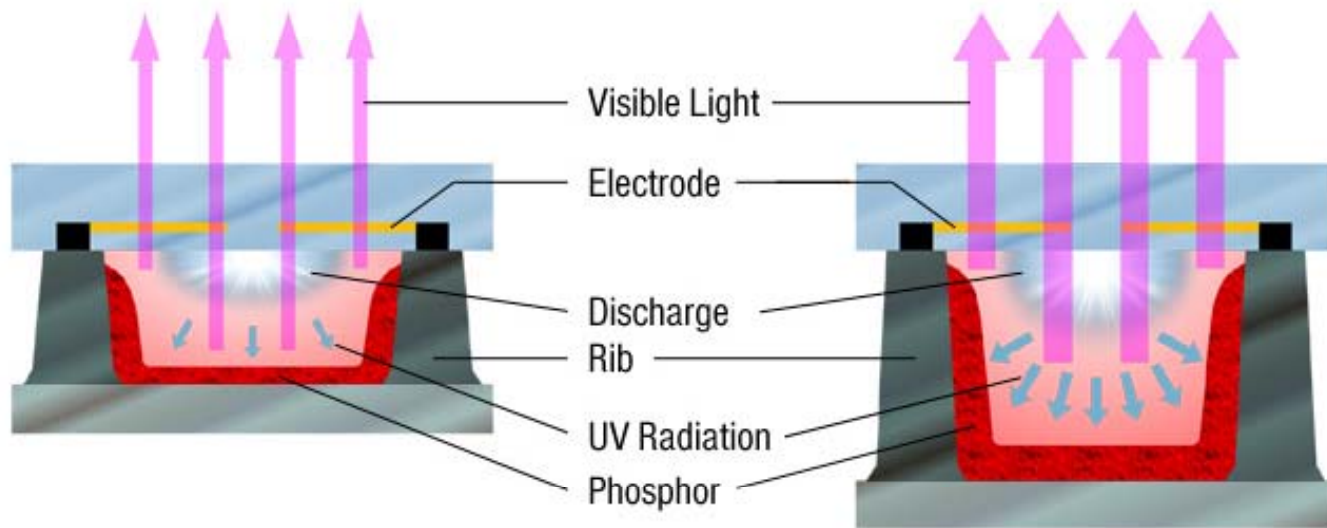
Waffle Rib Structure/
Encased Cell Structure
(PDP-502)



Deep Waffle Rib Structure/
Deep Encased Cell Structure
(PDP-503)

Deep Waffle Rib Structure: realises even higher light emission efficiency

For the PDP-503, Pioneer's further improved this technology by making each individual cell deeper.



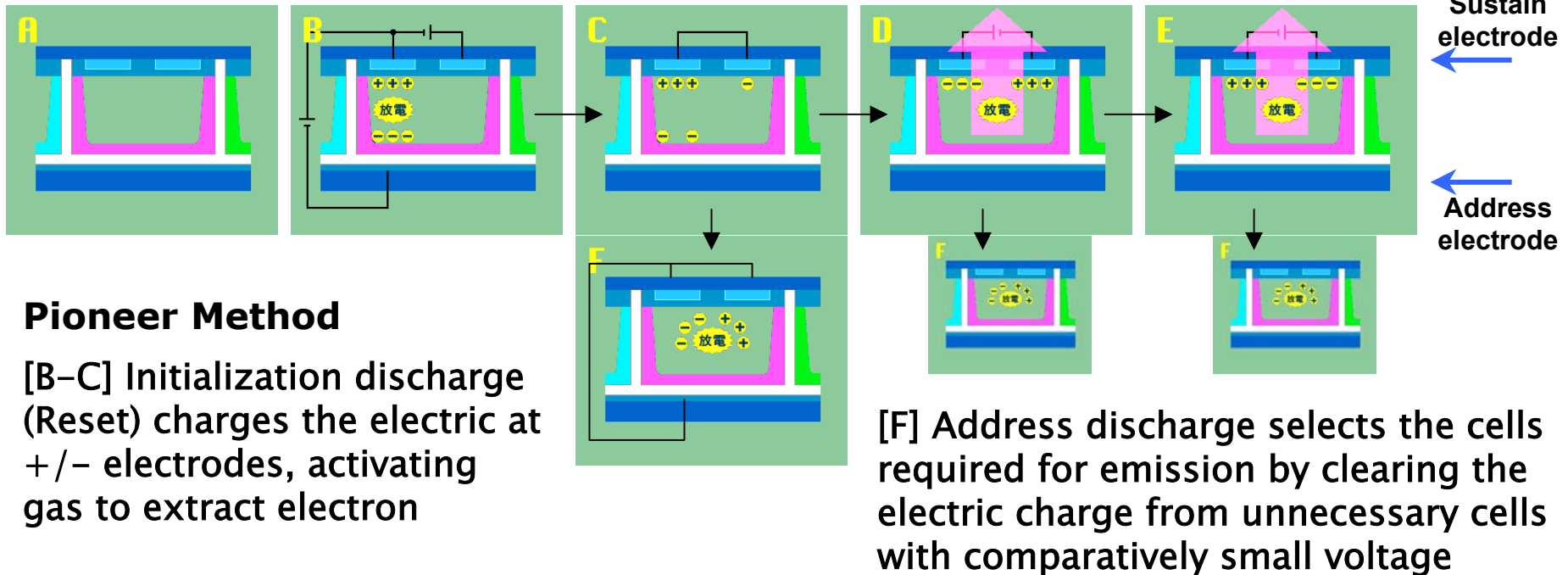
Previous Encased Cell Structure

**Deep Waffle Rib Structure
(Deep Encased Cell Structure)**

The new cell structure has a greater light emission area, so this results in even higher light emission efficiency—50% higher than our previous model . (PDP-502)

PDP basic principles

The PDP screen is 2 glass panels with pixels sandwiched. The pixels consist of tiny cells with electrodes on the top and bottom. Inert gas (Xenon+Neon) is trapped between 2 glasses, separated by a gap of just 100–200 microns wide. UV light is generated by discharging the gas using electrodes. Red, green and blue phosphors absorb these UV discharges and reradiate the energy as visible light to produce the colors that appear on the screen.



Pioneer Method

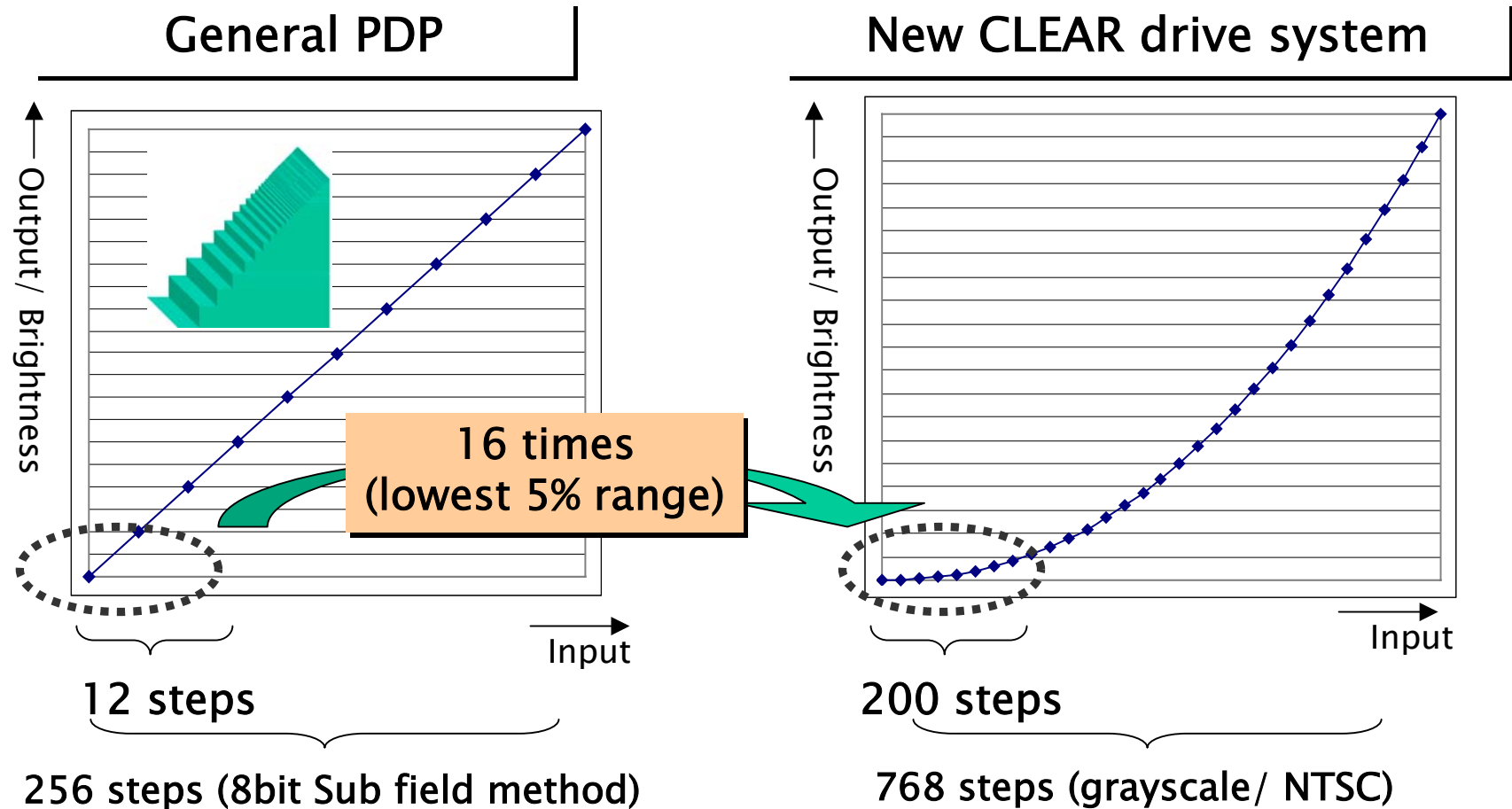
[B–C] Initialization discharge (Reset) charges the electric at +/– electrodes, activating gas to extract electron

[F] Address discharge selects the cells required for emission by clearing the electric charge from unnecessary cells with comparatively small voltage

[D] Sustaining discharge is made by a pulse of voltage on sustain electrodes. It generates UV light, which makes phosphor radiate visible light emission.

[E] The electric at electrodes remains so that continuous pulses of AC voltage can make another light-emitting discharge

Improvement of gradation reproduction in low brightness range



- Linear shaped characteristics of brightness level against input signal of conventional PDP is poor at gradation in low brightness range
- Allocating comparatively more steps in low range, Characteristics of 503 has a gamma curve similar to analog CRT, which doesn't require the artificial process for offsetting gamma curve of input signal in video processing

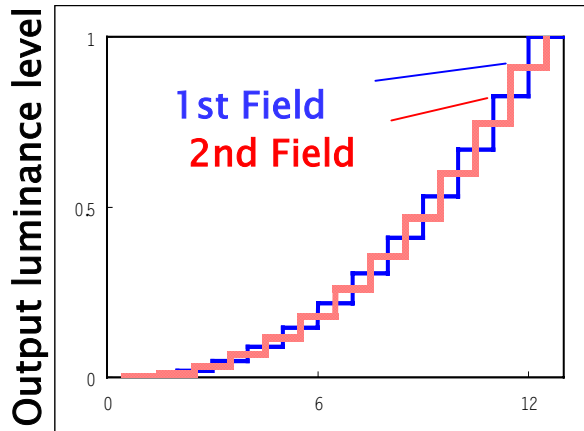
CLEAR driving method: the way to increase gradations

502MX:

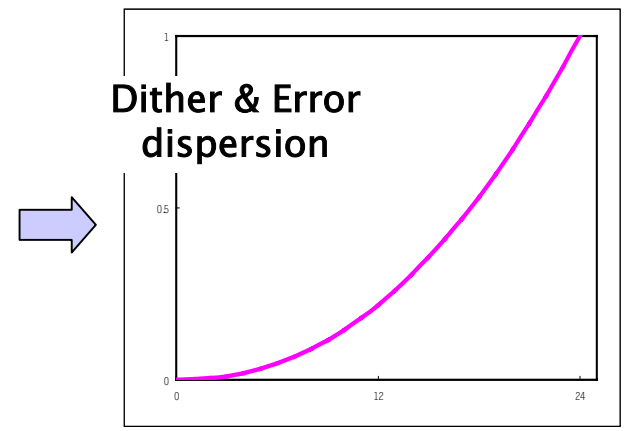
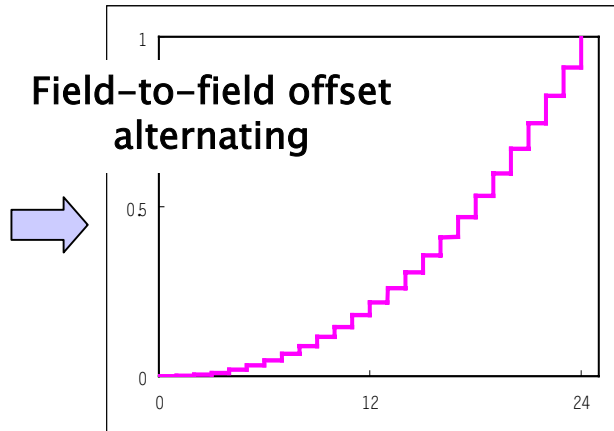
12 sub-field x 2 (Field-to-field offset alternating) x 16 (Dither & Error dispersion) = 384 gradations

503CMX:

| | Sub-field | Field-to-field offset alternating | Dither & Error dispersion | Total gradations |
|------|-----------|-----------------------------------|---------------------------|------------------|
| PAL | 13 | x 2 | x 32 | = 832 |
| PC | 10 | x 2 | x 32 | = 640 |
| NTSC | 12 | x 2 | x 32 | = 768 |



Input Signal level



Each field (1/60 sec) can have 12 steps. (in case of NTSC)
With using 2 neighboring fields, different grayscales are assigned. By combining these 2 fields, grayscales in-between can be generated. As a result of it, another 12 steps can be implemented to get 2 times as many grayscales as that of 1 field.

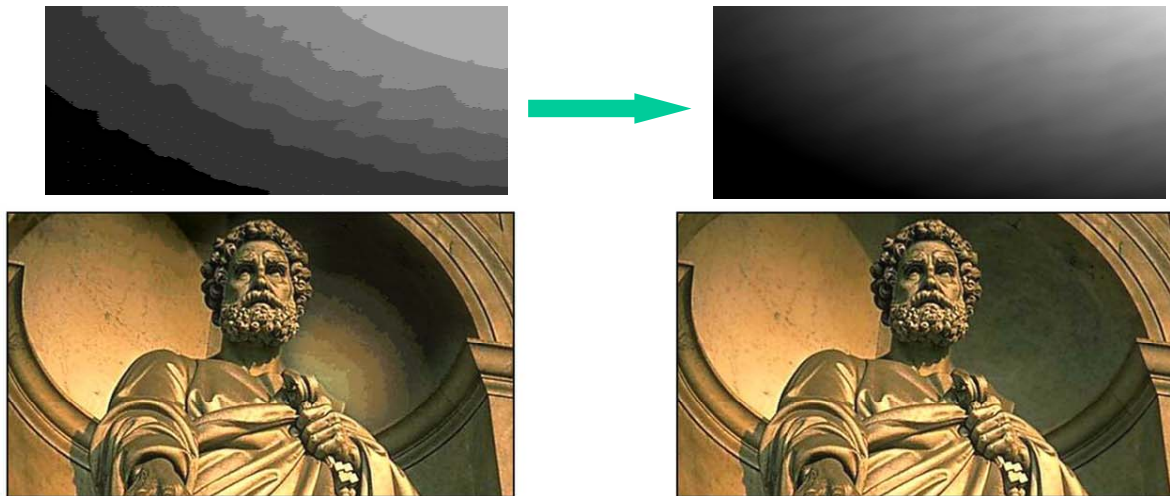
Dithering & Error dispersion method realized by 10bit precise calculation refines the analog-like smooth gamma curve

Gradation Reproduction in Low Brightness Range

Pioneer's CLEAR* driving technology has succeeded in eliminating false contour of poor gradation areas. Details in shadow that were previously obscured in conventional PDP can now be seen.

(*CLEAR: high-**C**ontrast & **L**ow **E**nergy **A**ddress & **R**eduction of false contour sequence. We alternatively call it “Continuous Emission Display Technology”)

Even with dark images, detailed patterns are faithfully reproduced.



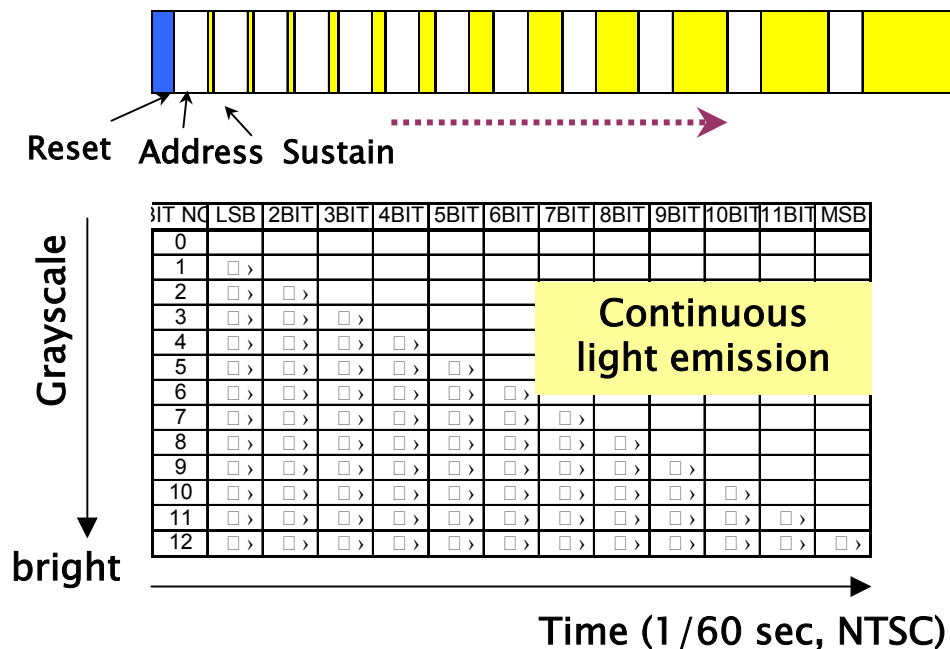
Conventional PDP

Pioneer CLEAR drive

Conventional PDPs exhibit rough gradations in the low brightness range, so image quality in dark areas is inferior. Pioneer's gradation slope is much smoother.

CLEAR sub-field driving method

Continuous Emission Display Technology



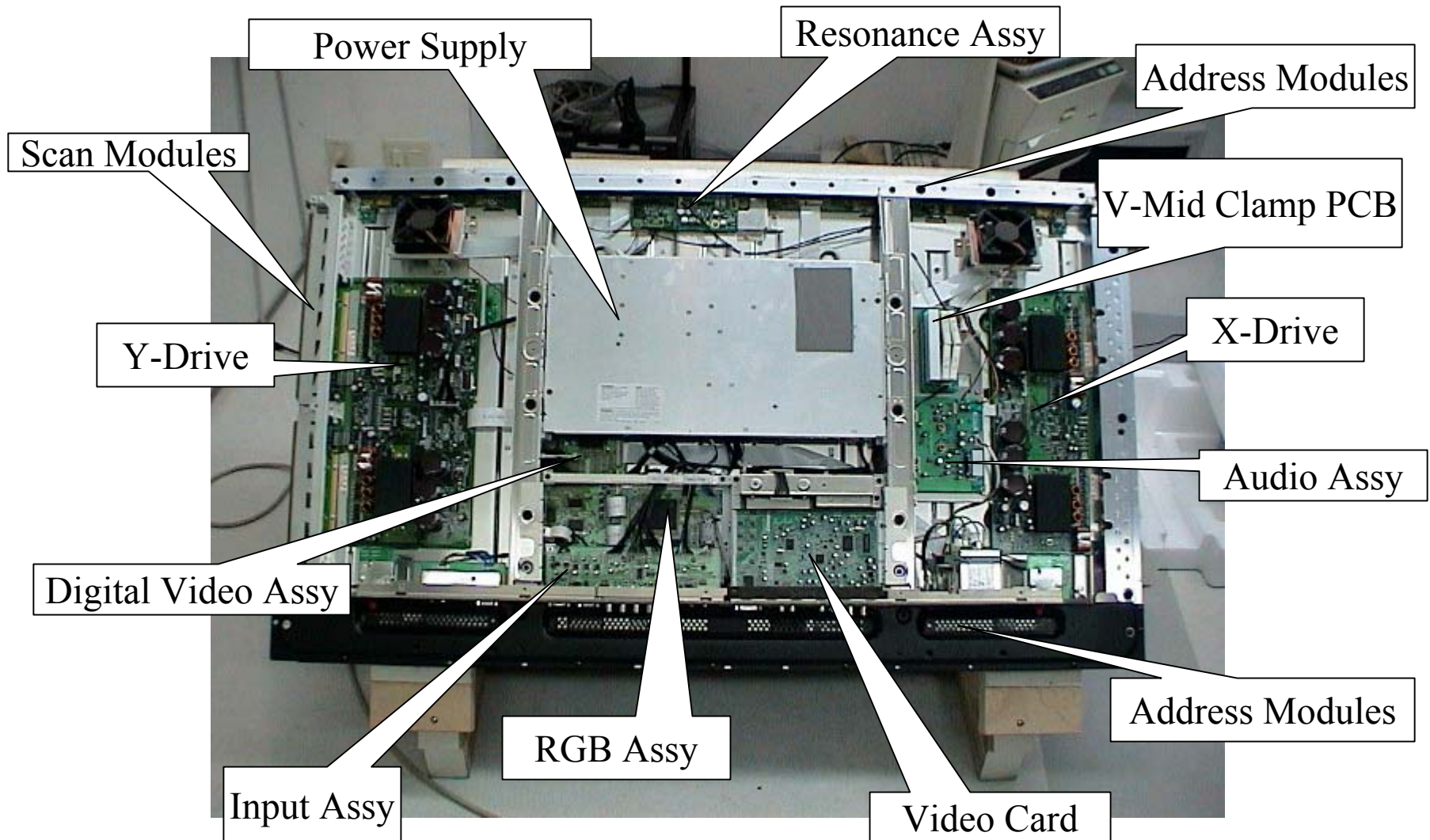
- Only one reset discharge per field
- Continuous light Emission of the needed number of pulse
- No random light emission = No more random gaps without emission

Results :

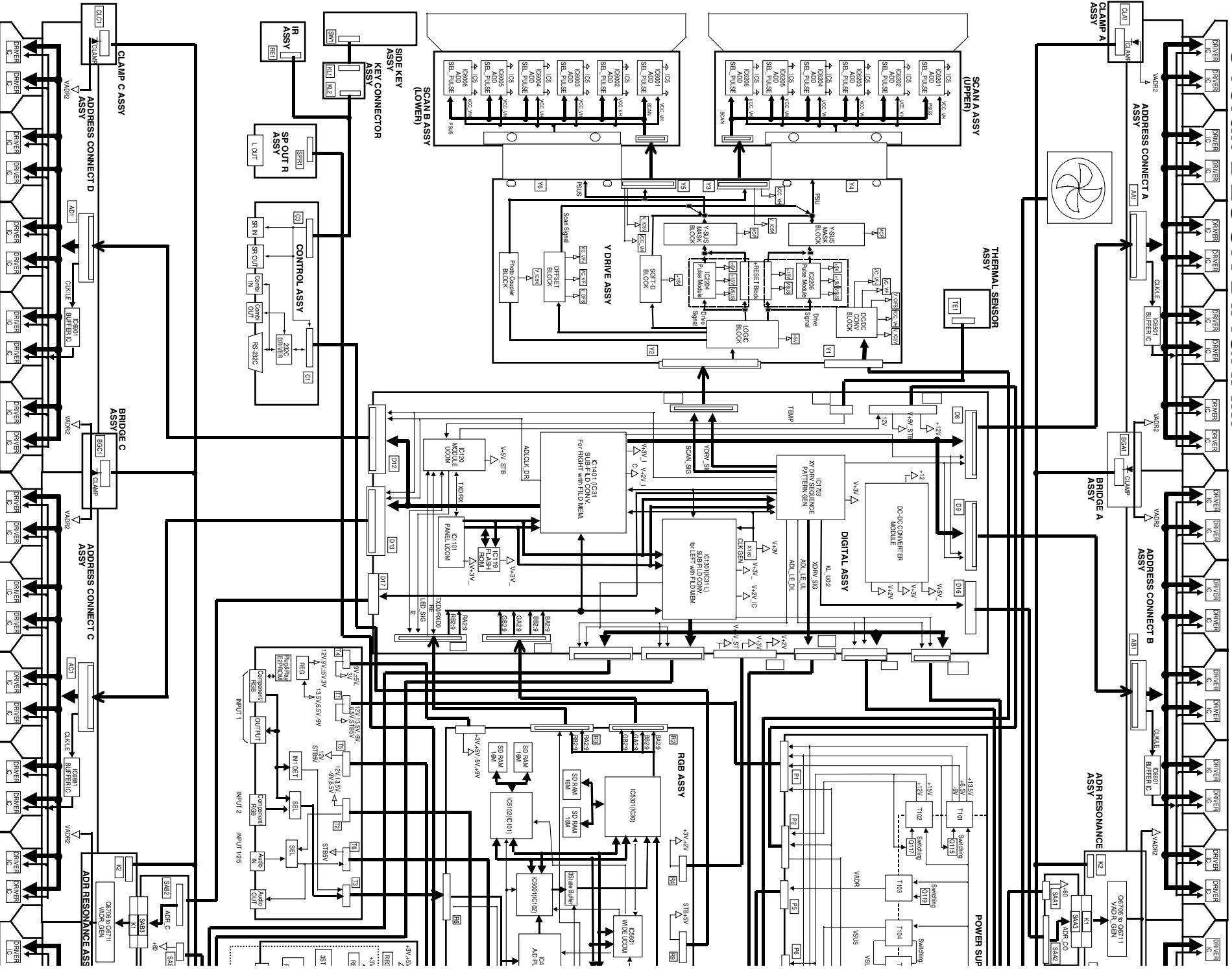
- Higher Contrast (Lowest brightness less than 1cd/m²)
- Less Addressing power consumption: 1/3 vs 501
- No Dynamic False contour

High **C**ontrast & Low **E**nergy **A**ddress & **R**eduction of false contour sequence

Main PCB Layout PDP503CMX

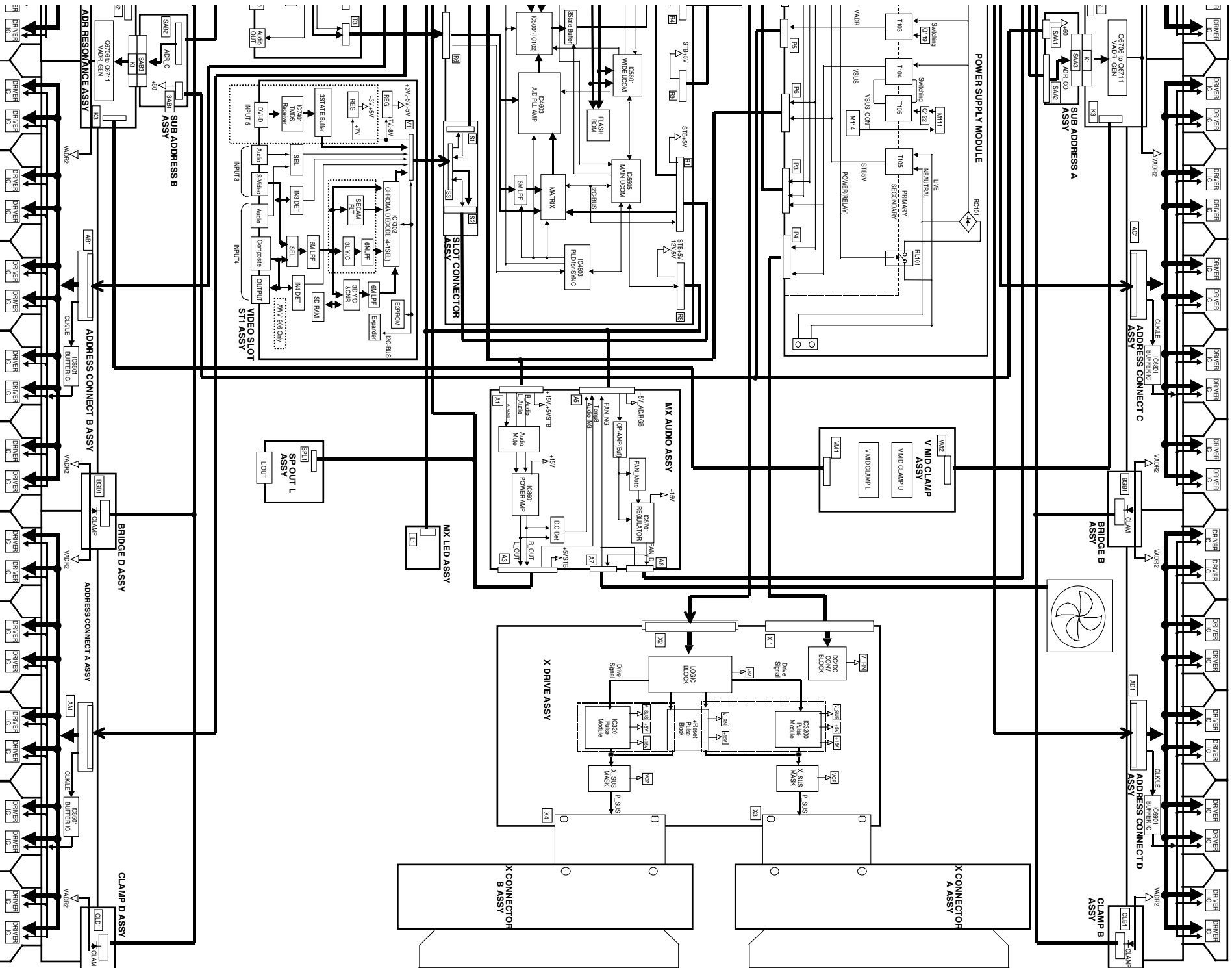


Overall BLOCK DIAGRAM

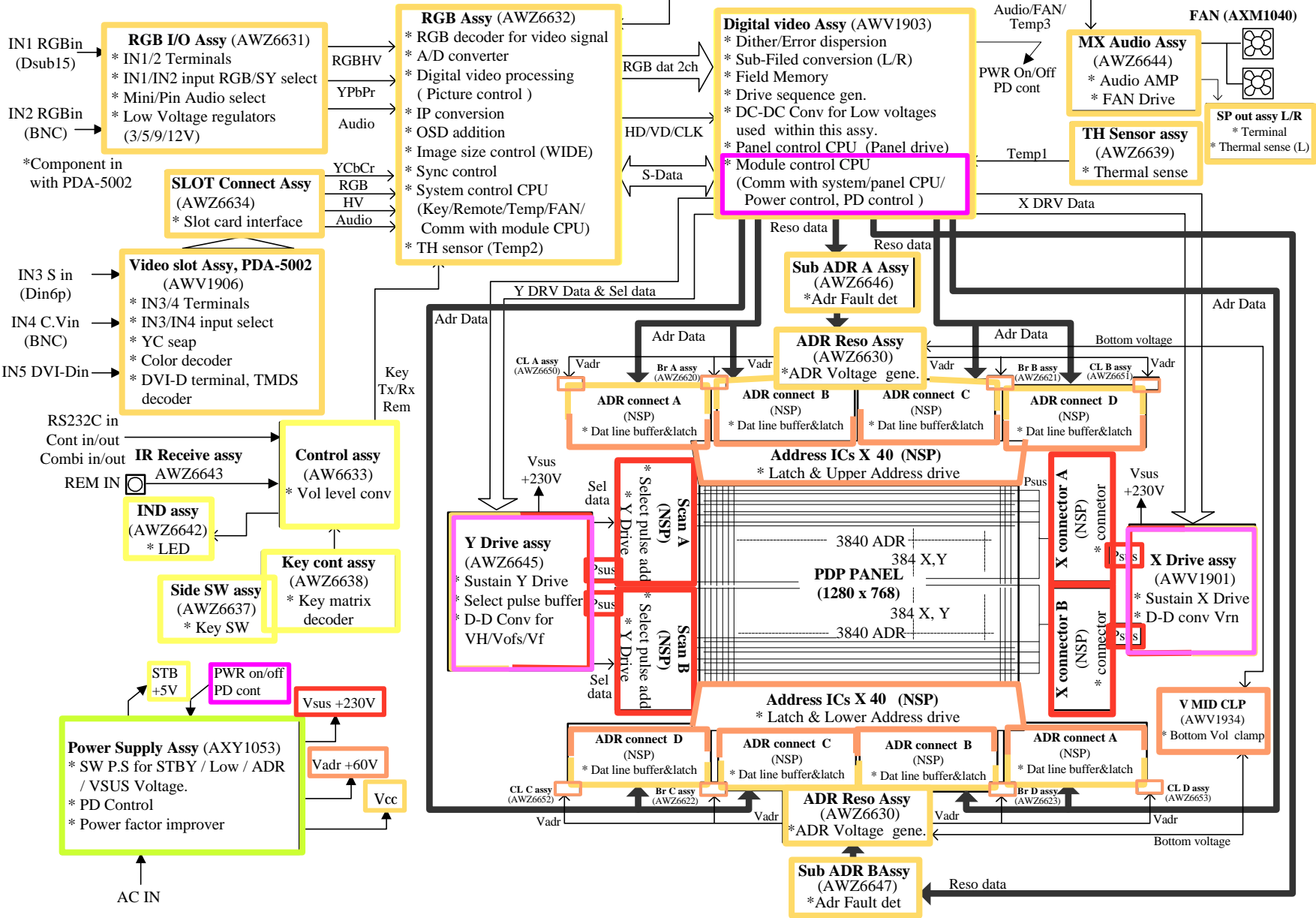


BLOCK DIAGRAM

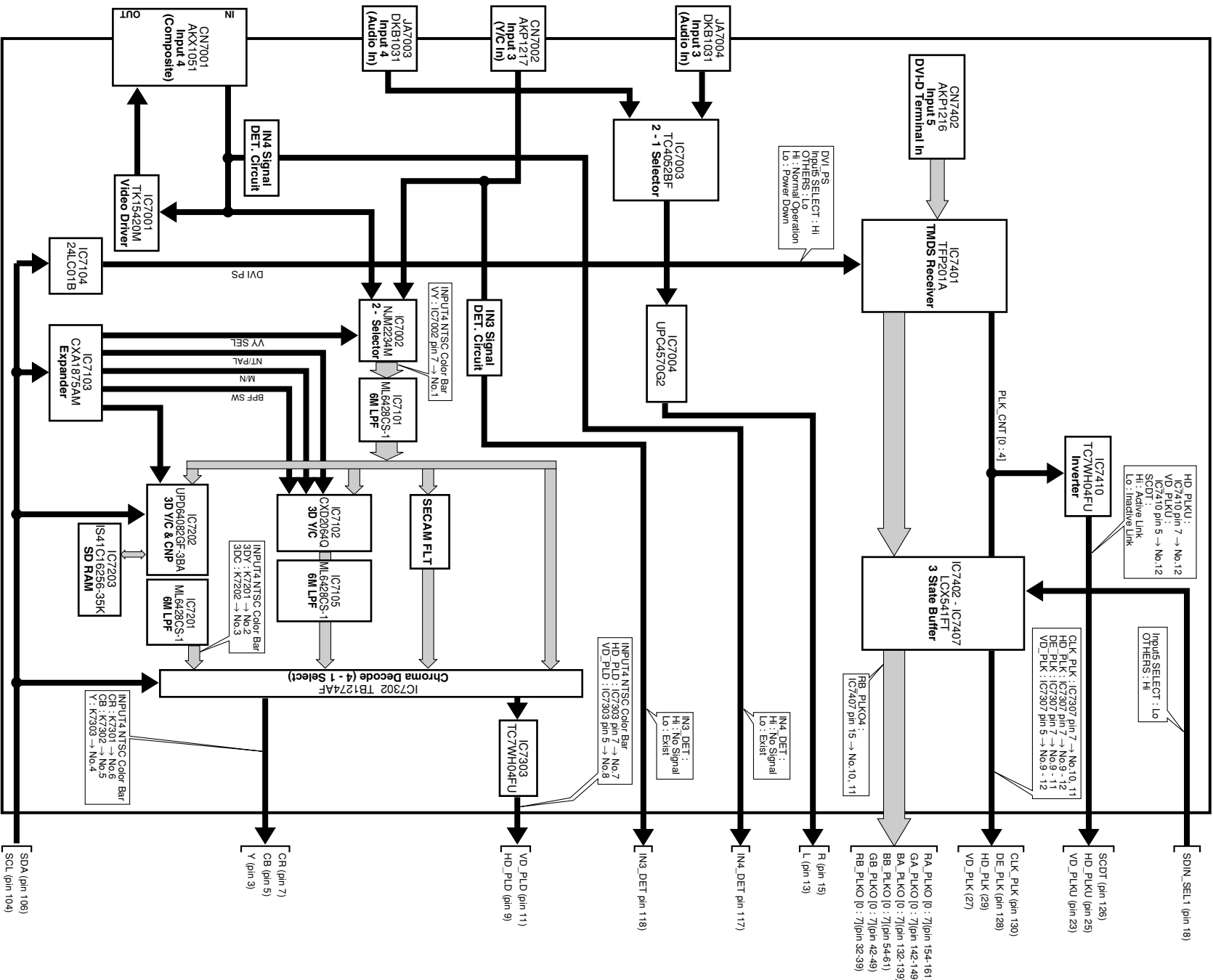
OVERALL BLOCK DIAGRAM



Overview PDP-503CMX.



VIDEO CARD (PDA-5002)



Video Card (PDA-5002)

Input 3 : YC using a "S" connector and audio RCA X 2.

Input 4 : Composite in and out using (BNC) connectors and audio RCA X 2.

**Input 5 : DVI-D (Digital Visual Interface-Digital Host Only)
Audio can be connected to the main stereo mini Jack for inputs 1 and 2.**

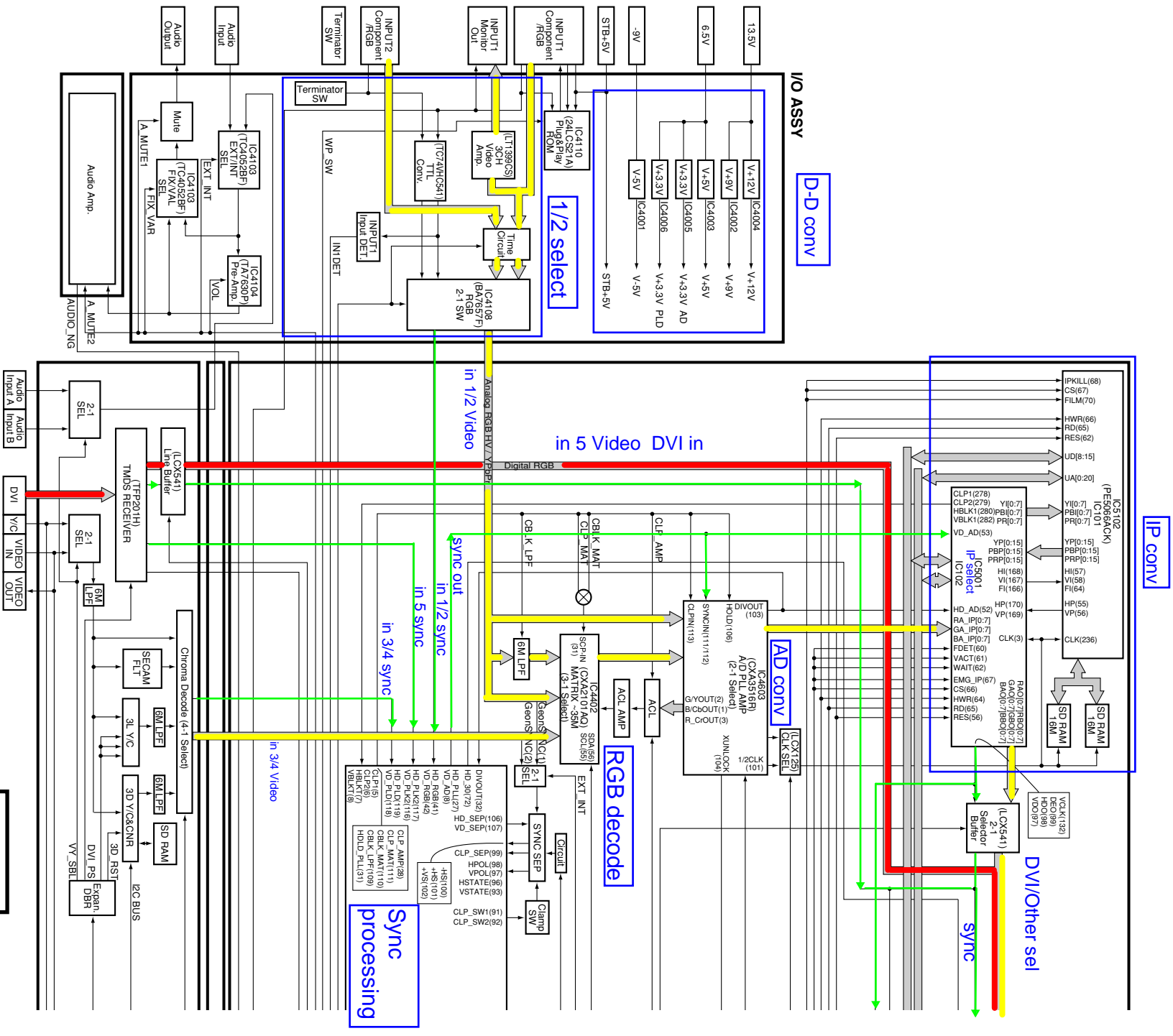
**Slot detect signal when inserted is sent to the main CPU
Located on the RGB board. This allows inputs 3, 4 and 5
To be used as well as enabling High Definition signals
From inputs 1 or 2.**

**Signals from the DVI connector are sent through a TMDS
Receiver (Time Minimized Differential Signaling) and on
To the RGB board as 8 bit 2 phase digital RGB.**

RGB Block

| Main IC's | Function/Control |
|--|---|
| IC5505 Main System Microprocessor | Module CPU, Wide Control CPU, Input frequency sync detect, RS232 control, Remote & key control, input switching, Fan control and Thermal sensor monitor |
| IC4803 Sync Processing | Generates sync for OSD with no input, separates and processes all sync inputs except DVI and sets clamp levels for sync output to I/P selector IC |
| IC5301 Digital Video Processor | Adjusts screen size, digital video enhance, On screen display generator, 8 to 10 bit converter (dither & error dispersion control) |
| IC4603 AD Converter | Converts all input analog video signals to digital RGB (8 bit) except DVI |
| IC4402 RGB Decoder | Converts Y/PB/PR and Y/CB/CR signals to RGB and outputs to the A to D converter |
| IC5102 & 5001 I/P Converter & Selector | Converts input digital RGB signals from Interlace to progressive and from 8 bit one phase input to 8 bit 2 phase output |

RGB ASSY



RGB Block Signal Flow

Inputs 1 or 2 from the I/O assy if RGB go directly to IC4603 (RGB A/D converter), if the signals are component they enter IC4402 and then converted to RGB and sent to IC4603. After A/D conversion takes place from IC4603 the now Digital 8-bit RGB is sent onto IC5001 & IC5102 the interlace to progressive and selector IC's. After I/P conversion the signals are sent out from IC5001 as 2 channel 8-bit RGB through a selector switch and onto IC5301 the Digital Video Processor IC. IC5301 contains the video correction circuitry needed to process the RGB signal. Brightness, contrast, white balance, video enhance, screen size and on-screen display are all controlled by IC5301. The output from the Video Process IC is 10-bit 2 channel RBG and exits this assembly and enters the Digital Video Board.

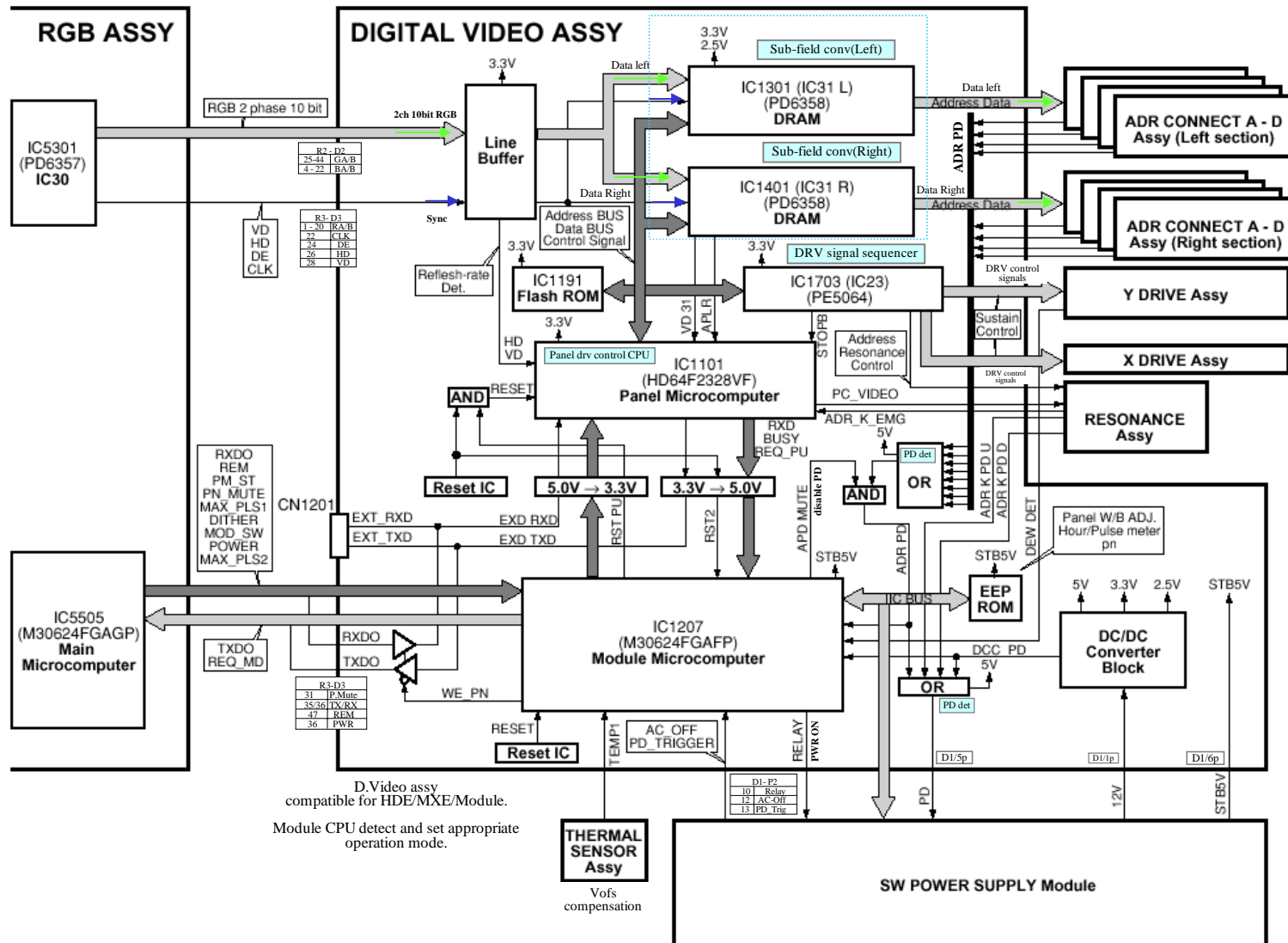
Inputs 3 or 4 from the video card after conversion to Y/CB/CR (inside the video card) follow the exact same path as the component flow for inputs 1 or 2.

The DVI input (input 5) from the video card is already 8-bit 2 channel digital RGB and bypasses the RGB decode, A/D converter and I/P converter. The DVI signals directly enter the Digital Video processor (IC5301).

Sync paths for all inputs enter IC4803 (sync processor) through various inputs. After sync separation is preformed and analog to digital converting the sync outputs (for inputs 1, 2, 3 or 4) is sent to the I/P select chip IC5001. The output from the I/P select chip is sent to a selector switch. This switch will allow the RBG & sync or the DVI & sync to be sent onto the Digital Video Process IC.

Sync signals are also sent to the system control IC (IC5505) to determine input signal frequency.

- *Digital video circuit block* -

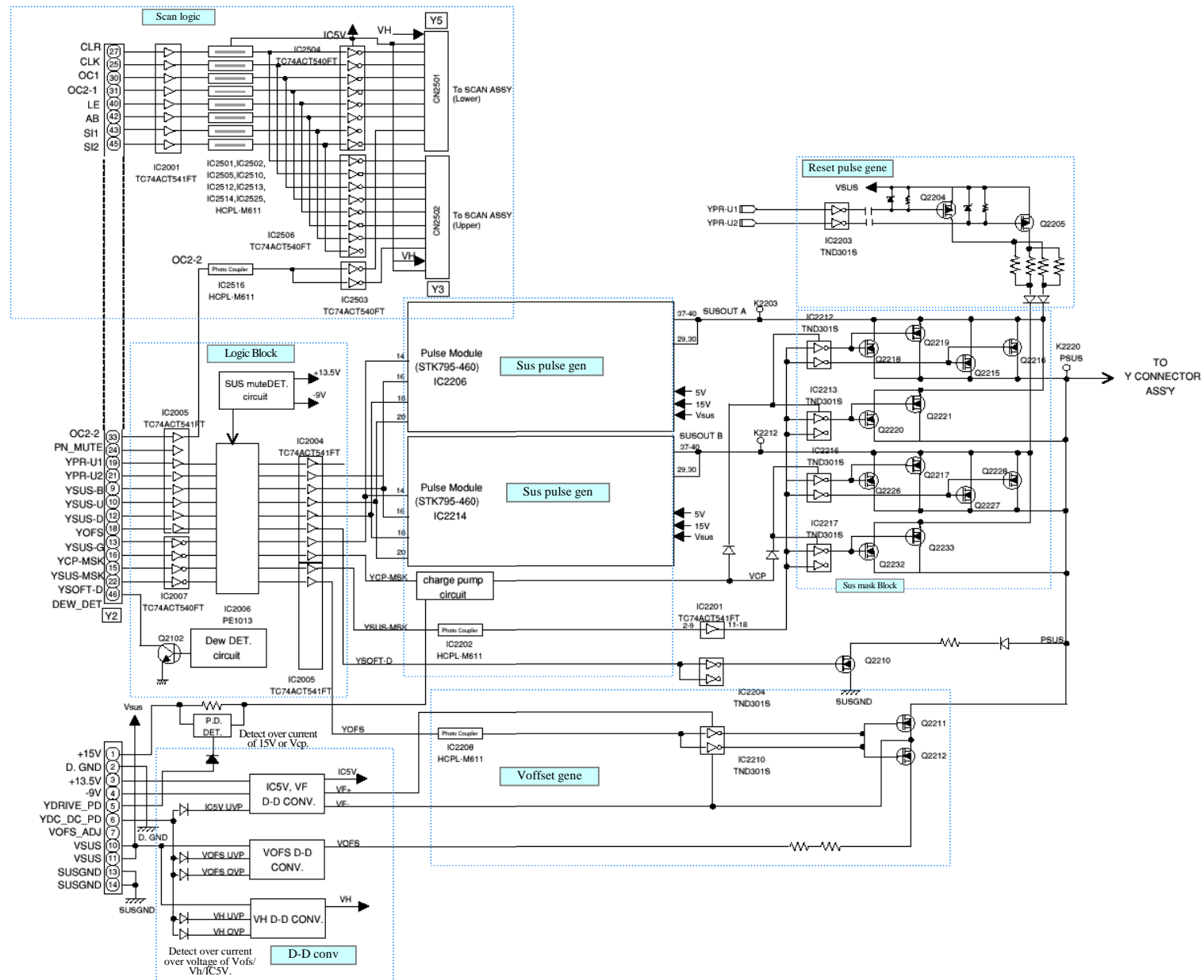


Digital Video Assembly

The 2 phase 10 bit RGB signal, sync, data and clock lines input the Digital Video Assembly from the RGB assembly. The signals pass through the line buffer and into IC1301 and IC1410 (sub-field Data Generators) where the address data is generated and sent out to the left section and right section address connectors A-D.

X and Y drive sustain control is preformed by IC1703 and the panel microcomputer IC1101. The panel microcomputer monitors the horizontal and vertical drive signals to select the proper refresh rate. The module microcomputer IC1207 controls the panel microcomputer via logic lines sent through voltage logic level converters. IC1207 is controlled by IC5505 the main microcomputer on the RGB board. IC1207 functions also include thermal sensor monitoring, dew detection, reset control and is used not only to switch on the power supply but to also switch off the power supply should one of the power down detect lines activate.

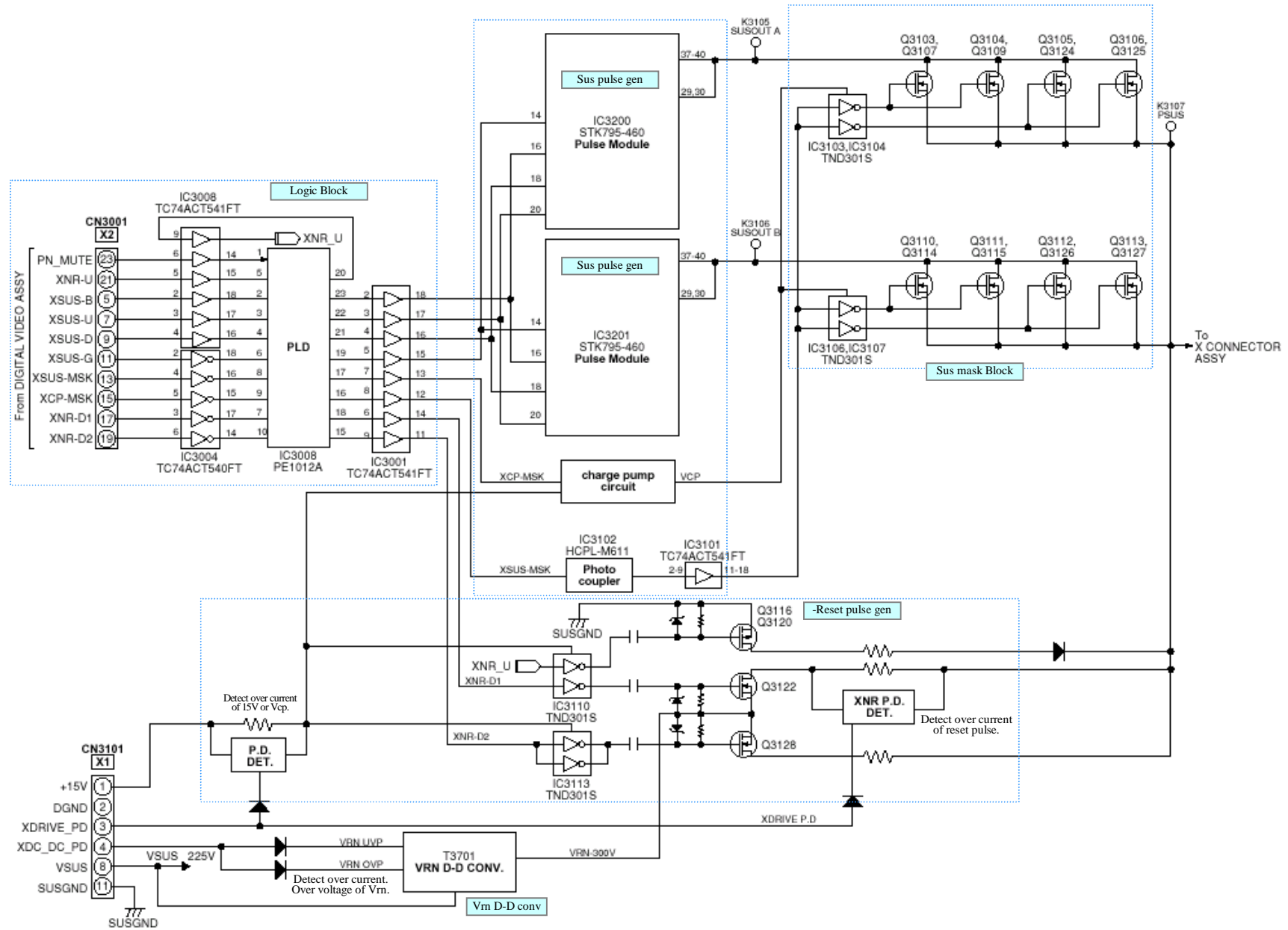
- *Y drive circuit block* -



Y- Drive Block

The Y- Drive PCB receives Scan and Y – Drive signals from the Digital Video Assembly's drive sequence generator. Scan signals are processed by the logic block and sent out to the upper and lower scan drive assembly's. The Y – Drive signals (YSUS up, YSUS down, YSUS B plus and YSUS ground are also sent to the logic block. The four signals are sent out in parallel to the upper and lower sustain pulse generators. The drive signal output from the sustain pulse generators are controlled by reset, offset and mask FET's shown in each block to obtain the Panel Sustain signal sent to the upper and lower scan drive modules. This module also contains a DC to DC converter, dew detect and over current detect circuits.

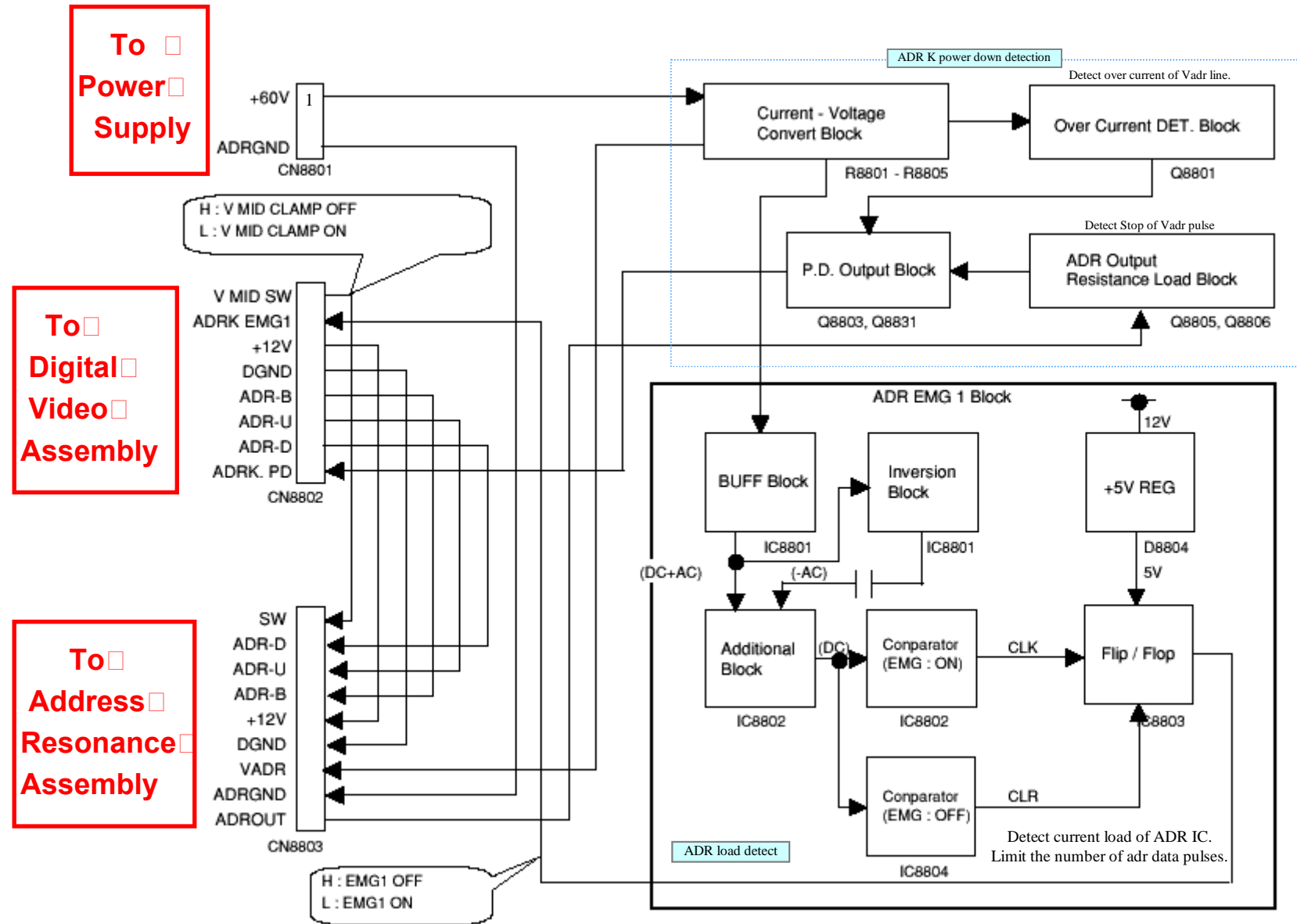
- X drive circuit block -



X- Drive Block

The X- Drive PCB receives X – Drive signals from the Digital Video Assembly's drive sequence generator. The X – Drive signals (XSUS up, XSUS down, XSUS B plus and XSUS ground are sent to the logic block. The four signals are sent out in parallel to the upper and lower sustain pulse generators. The drive signal output from the sustain pulse generators are controlled by reset and mask FET's shown in each block to obtain the Panel Sustain signal sent to the upper and lower X connector assembly's. This module also contains a DC to DC converter and over current detect circuits.

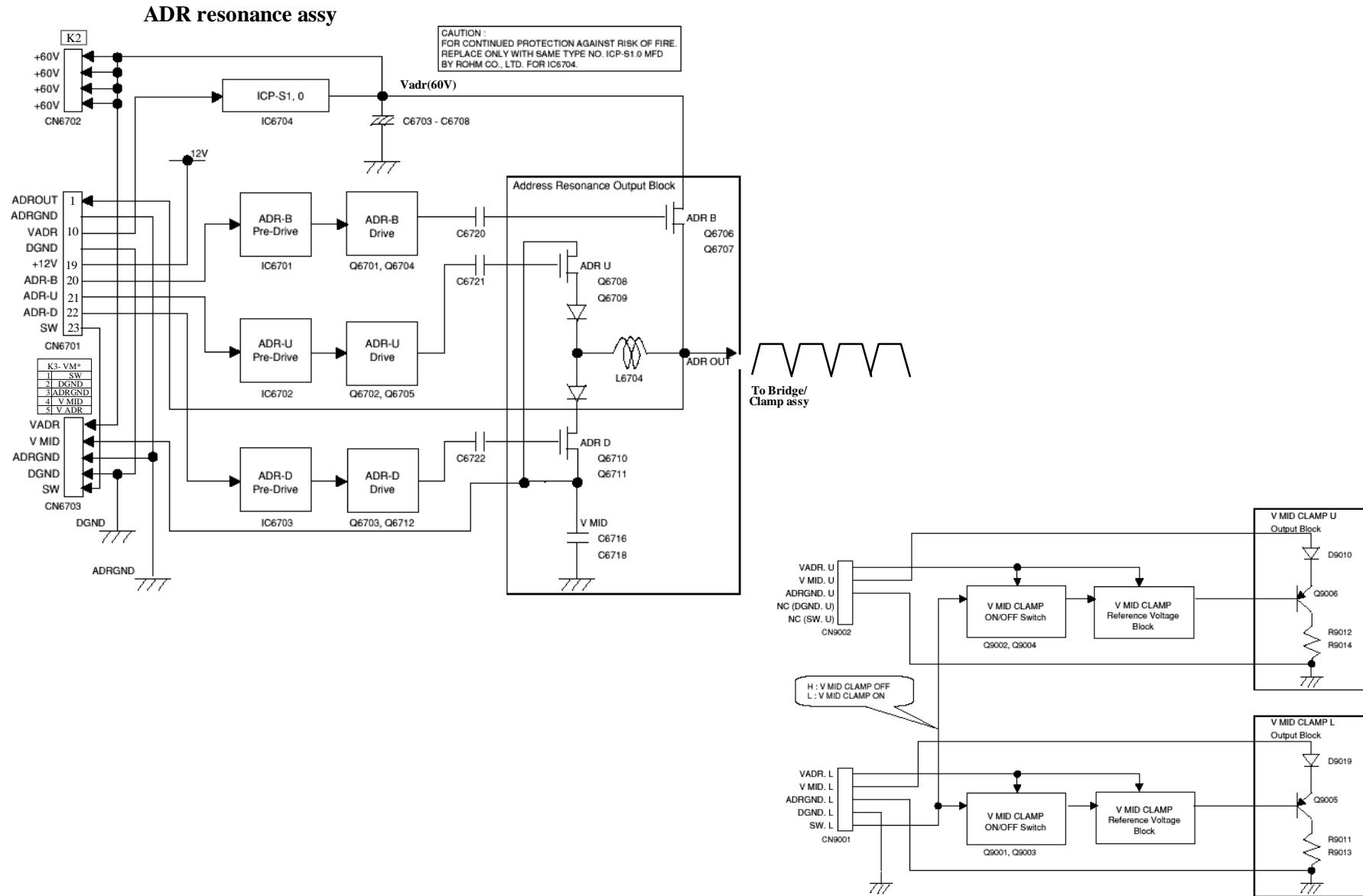
- Sub Address circuit block -



Sub Address Block

The two Sub Address Circuits are located just above and below the address driver connect assembly's (between B & C connectors). See the overall block Diagram for locations. The upper and lower sub address circuits monitor the current draw of the 60 volt supply to the address drivers. If a small amount of current draw is detected (more than normal) a signal is sent back to the Digital Video Assembly (ADRK EMG1) as an emergency signal and the Digital Video Assembly will limit the number of address data pulses in order to lower the current draw. If the current draw is too large the address power down signal will be sent to the Digital Video Assembly (ADRK PD) and the panel will go into power down condition. (red flashing LED).

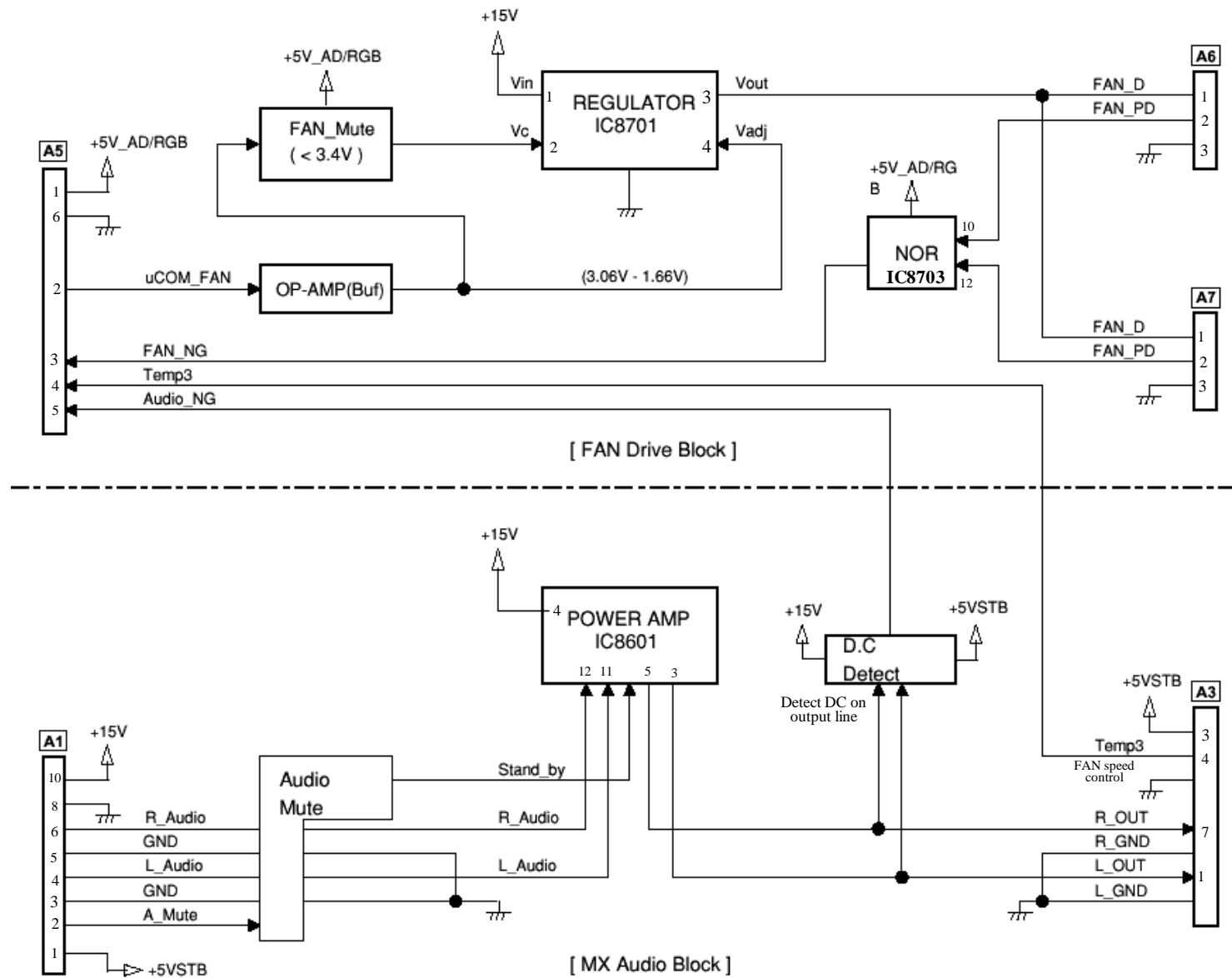
Address resonance/V mid clamp circuit block -



Address Resonance & V-Mid Assembly's

The two Address Resonance circuits are located next to each Sub Address PCB and the V-Mid circuit is located just to the right of the power supply PCB. In later production models the V-Mid assembly will be located on the power supply bracket. These circuits are used to protect the address driver IC's in the event of extreme picture changes. An example would be if the entire picture was alternating each cell black and white. This causes the IC's to overheat. The Digital Video circuit will detect the rapid frequency change in the addressing signals and will turn on the V-Mid clamp switch. The V-Mid circuit will take the normally 60 volt address output signal and lower it by half (30 volts). The voltage will return to normal once the Digital Video circuit has determined the frequency to be an acceptable rate.

- MX audio circuit block -



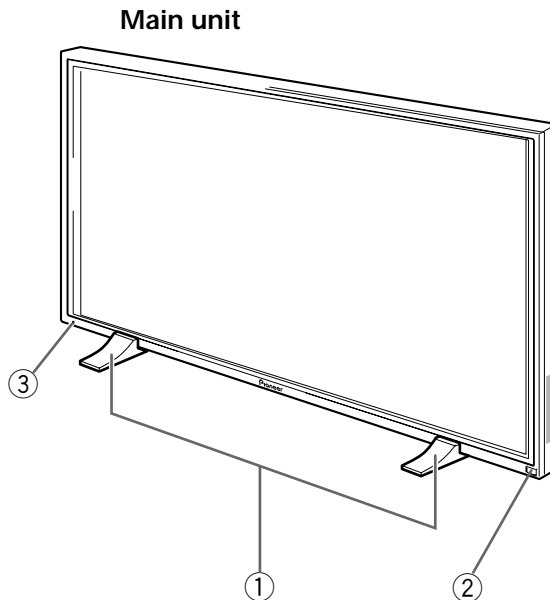
Fan Drive & Audio Block

The fan drive circuit is located on the Audio MX assembly. Physical location between the RGB and the X-Drive assembly's. In normal operation the two fans are off. The Main Microcomputer on the RGB board (IC5505) monitors temperature sensor three and when the temperature reaches 35° Celsius the fan drive signal is sent to the regulator (IC8701) and the fans start at low speed. As the temperature increases the fan speed also increases at a linear rate until full speed has been reached. The panel will go into shut down if the temperature reaches 78° Celsius (green flashing LED). Fan rotation detectors are located in each fan motor, if no rotation is detected IC8703 will instruct the CPU to enter shut down mode.

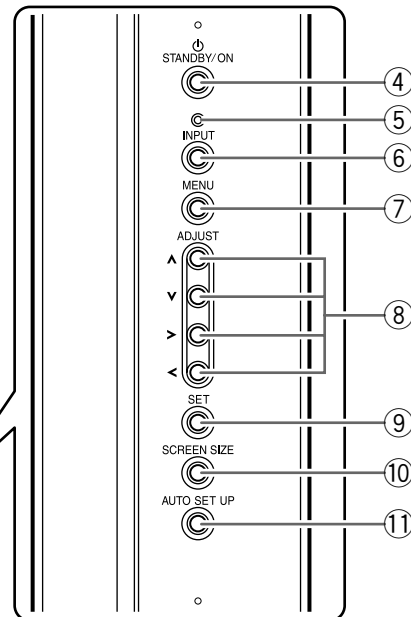
A DC detector monitors the output from the 2 watt audio amplifier IC8601. If DC is detected on the right or left channel outputs the detector sends an Audio_NG signal to the RGB CPU and the unit enters the shut down state. (green flashing LED)

Controls and Connectors

Main unit



Operation panel on the main unit



Note

When optional speakers have been connected, the operation panel on the main unit will not be operable.

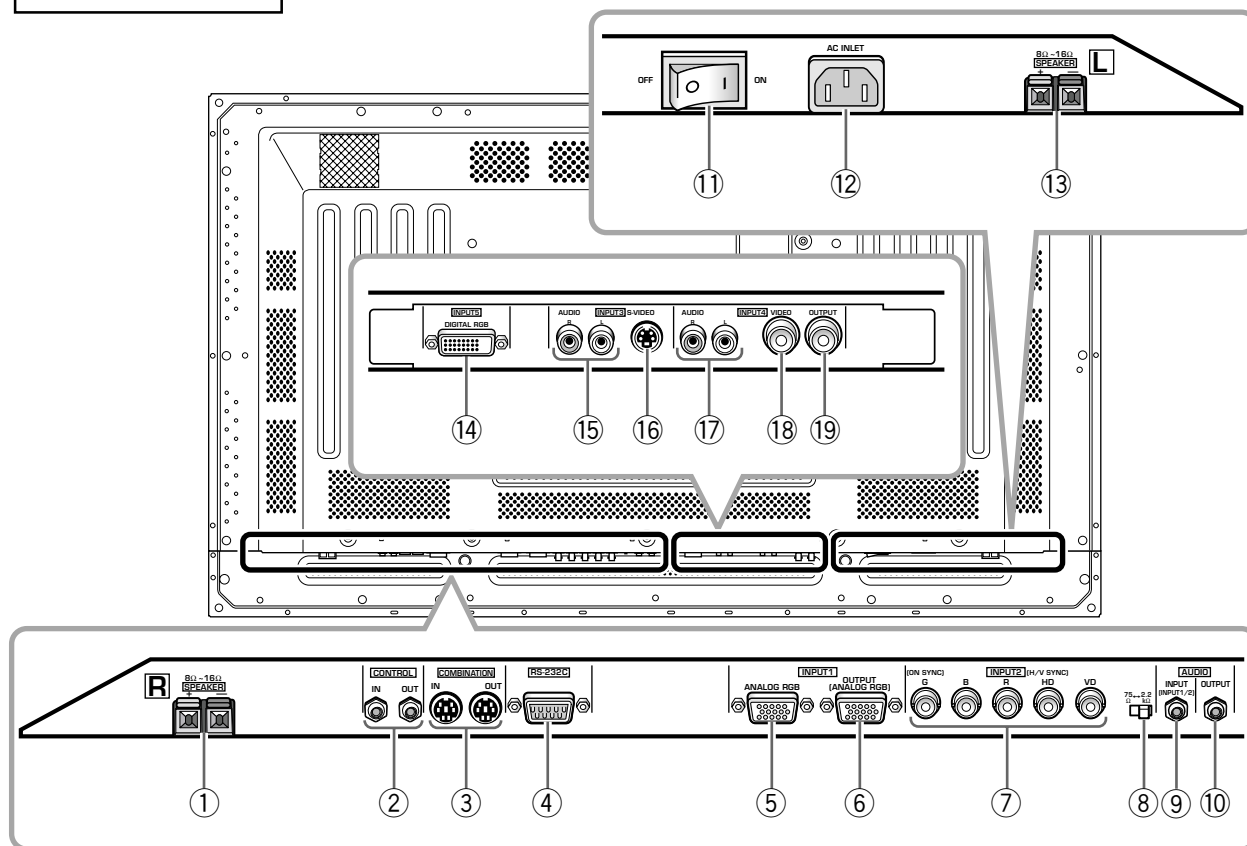
Main unit

- ① **Display stand**
- ② **Remote control sensor**
Point the remote control toward the remote sensor to operate the unit.
- ③ **STANDBY/ON indicator**
This indicator is red during standby mode, and turns to green when the unit is in the operation mode.
Flashes green when Power-Management function is operating.
The flashing pattern is also used to indicate error messages.

Operation panel on the main unit

- ④ **STANDBY/ON button**
Press to put the display in operation or standby mode.
- ⑤ **KEY LOCK/UNLOCK Button (concealed button)**
This switches between main unit panel and remote control operation permitted/forbidden.
- ⑥ **INPUT button**
Press to select input.
- ⑦ **MENU button**
Press to open and close the on-screen menu.
- ⑧ **ADJUST (▲/▼/▶/◀) buttons**
Use to navigate menu screens and to adjust various settings on the unit.
Usage of cursor buttons within operations is clearly indicated in the on-screen display.
- ⑨ **SET button**
Press to adjust or enter various settings on the unit.
- ⑩ **SCREEN SIZE button**
Press to select the screen size.
- ⑪ **AUTO SET UP button**
When using computer signal input, automatically sets the POSITION and CLOCK/PHASE to optimum values.

Connection Panel




Plasma Display Section

① SPEAKER (R) terminal

For connection of an external right speaker.
Connect a speaker whose impedance is 8 -16 Ω.

② CONTROL IN/OUT (monaural mini jacks)

For connection of PIONEER components that bear the  mark. Making CONTROL connection enables control of the main unit as a component in a system.

(NOTE) The main unit cannot be operated by the wired remote control RV-V107.

③ COMBINATION IN/OUT

Used when a number of sets are controlled collectively. (See "5.6 Combination Connection")
Please use a mini DIN 6 pin cable (straight, fully connected) available on the market as the connecting cable.

(NOTE) It has no ABL linking function. And it is not compatible with the RM-V4000V or other multi-projection. It is not output when the main power is off.

④ RS-232C

This terminal is used for adjustments by a PC (EIA-232-F standard).
(See "5.5 RS-232C Adjustment Mode")

⑤ INPUT1 (mini D-sub 15 pin)

For connection of components that have RGB or component output jacks* such as a personal computer, DVD player, or external RGB decoder.

⑥ OUTPUT (INPUT1) (mini D-sub 15 pin)

Use the OUTPUT (INPUT1) connector to output the video signal to an external monitor or other component.

(NOTE) • The video signal will not be output from the OUTPUT (INPUT1) connector when the main power of this display is off or in standby mode.

• When connecting the main units in a series, please set the number that can be connected as a total of 5 including the set that the signal is initially input to. But a condition for performing separate sink or composite sink input and output is that the sink level of the source used is at least TTL level at 2.2kΩ terminal time.

⑦ INPUT2 (BNC jacks)

For connection of components that have RGB or component output jacks★ such as a personal computer, DVD player, or external RGB decoder.

⑧ Synchronizing signal impedance selector switch

Depending on the connections made at INPUT2, it may be necessary to set this switch to match the output impedance of the connected component's synchronization signal.

When the output impedance of the component's synchronization signal is below 75 Ω , set this switch to the 75 Ω position.

⑨ AUDIO INPUT (Stereo mini jack)

Use to obtain sound when INPUT1, INPUT2 or INPUT5★ is selected.

Connect this jack to the audio output connector of the device connected to the plasma display's INPUT1 or INPUT2, or to the audio output connector of the device connected to the video card's INPUT5★.

⑩ AUDIO OUTPUT (Stereo mini jack)

Use to output the audio of the selected source component connected to the main unit to an AV amplifier or similar component.

⑪ MAIN POWER switch

Use to switch the main power or the main unit on and off.

⑫ AC INLET

A power cable is furnished with the main unit: connect one end of the power cable to this connector and the other end to a standard AC power source.

⑬ SPEAKER (L) terminal

For connection of an external left speaker. Connect a speaker that has an impedance of 8 -16 Ω .

Video Card <PDA-5002> Section ★

⑭ INPUT5 (DVI-D jack)

Use to connect a computer.

Note: This unit does not support the display of copyguard-protected video signals.

⑮ AUDIO INPUT3 (RCA Pin jacks)

Use to obtain sound when INPUT3 is selected.

Connect these jacks to the audio output connectors of components connected to the video card's INPUT3.

Note: The left audio channel (L) jack is not compatible with monaural input sources.

⑯ INPUT3 (S-video jack)

For connection of components that have an S-video output jack such as a video deck, video camera, laser disc player, or DVD player.

⑰ AUDIO INPUT4 (RCA Pin jacks)

Use to obtain sound when INPUT4 is selected.

Connect these jacks to the audio output connectors of components connected to the video card's INPUT4.

Note: The left audio channel (L) jack is not compatible with monaural input sources.

⑱ INPUT4 (BNC jack)

For connection of components that have a composite video output jack such as a video deck, video camera, laser disc player, or DVD player.

⑲ OUTPUT (INPUT4) (BNC jack)

Use the OUTPUT (INPUT4) jack to output the video signal to an external monitor or other component.

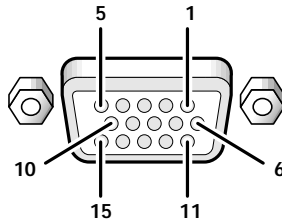
Note: The video signal will not be output from the OUTPUT (INPUT4) jack when the main power of this display is off or in standby mode.

Controls and Connectors

Pin layout

INPUT 1 (Mini D-sub, 15-pin connector; female) pin layout

Note : Standard VGA connector (plug and play supported).



| Pin No. | ⑰ INPUT1 input terminals | ⑱ INPUT1 output terminals |
|---------|-------------------------------------|---------------------------|
| 1 | R or C _R /P _R | ← |
| 2 | G or Y | ← |
| 3 | B or C _B /P _B | ← |
| 4 | NC (not connected) | ← |
| 5 | GND | ← |
| 6 | GND | ← |
| 7 | GND | ← |
| 8 | GND | ← |
| 9 | DDC +5V | NC (not connected) |
| 10 | GND | ← |
| 11 | NC (not connected) | ← |
| 12 | DDC SDA | NC (not connected) |
| 13 | HD or H/V SYNC | ← |
| 14 | VD | ← |
| 15 | DDC SCL | NC (not connected) |

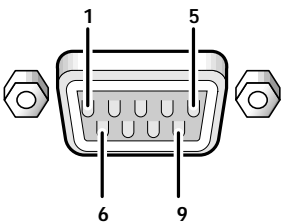
Combination IN/OUT terminal pin layout



| Pin No. | Combination IN | Combination OUT |
|---------|--------------------|--------------------|
| 1 | GND | GND |
| 2 | NC (not connected) | NC (not connected) |
| 3 | TxD (output) | RxD (input) |
| 4 | NC (not connected) | NC (not connected) |
| 5 | RxD (input) | TxD (output) |
| 6 | NC (not connected) | NC (not connected) |

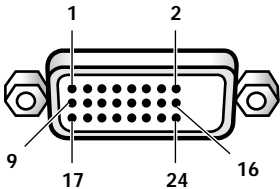
RS-232C terminal (D-sub 9-pin connector; male) pin layout

Note : Plasma communicates as a DCE device.



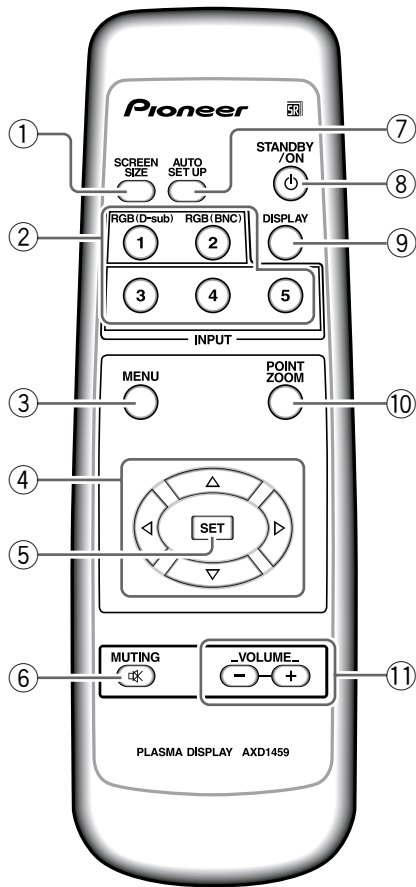
| Pin No. | Signal |
|---------|-----------------------|
| 1 | NC (not connected) |
| 2 | TxD (Transmit Data) |
| 3 | RxD (Receive Data) |
| 4 | NC (not connected) |
| 5 | GND |
| 6 | NC (not connected) |
| 7 | NC (not connected) |
| 8 | RTS (Request To Send) |
| 9 | NC (not connected) |

INPUT 5 * (DVI-D 24 pin connector; female) pin layout



| Pin No. | Signal Assignment |
|---------|-------------------------|
| 1 | T.M.D.S. Data2- |
| 2 | T.M.D.S. Data2+ |
| 3 | T.M.D.S. Data2/4 Shield |
| 4 | NC (No connection) |
| 5 | NC (No connection) |
| 6 | DDC Clock |
| 7 | DDC Data |
| 8 | NC (No connection) |
| 9 | T.M.D.S. Data1- |
| 10 | T.M.D.S. Data1+ |
| 11 | T.M.D.S. Data1/3 Shield |
| 12 | NC (No connection) |
| 13 | NC (No connection) |
| 14 | +5V Power |
| 15 | GND |
| 16 | Hot Plug Detect |
| 17 | T.M.D.S. Data0- |
| 18 | T.M.D.S. Data0+ |
| 19 | T.M.D.S. Data0/5 Shield |
| 20 | NC (No connection) |
| 21 | NC (No connection) |
| 22 | T.M.D.S. Clock Shield |
| 23 | T.M.D.S. Clock+ |
| 24 | T.M.D.S. Clock- |

Remote Control Unit



① SCREEN SIZE button

Press to select the screen size.

② INPUT buttons

Use to select the input.

(③, ④, and ⑤ are used when the PDA-5002 is connected.)

③ MENU button

Press to open and close the on-screen menu.

④ ADJUST (▲/▼/▶/◀) buttons

Use to navigate menu screens and to adjust various settings on the unit.

Usage of cursor buttons within operations is clearly indicated at the bottom the on-screen menu display.

⑤ SET button

Press to adjust or enter various settings on the unit.

⑥ MUTING button

Press to mute the volume.

⑦ AUTO SET UP button

When using computer signal input, automatically sets the POSITION and CLOCK/ PHASE to optimum values.

⑧ STANDBY/ON button

Press to put the unit in operation or standby mode.

⑨ DISPLAY button

Press to view the unit's current input and setup mode.

⑩ POINT ZOOM button

Use to select and enlarge one part of the screen.

⑪ VOLUME (+/-) buttons

Use to adjust the volume.

Normal Operating Mode

Normal Operating Mode

About normal operating mode

Normal operating mode enables the following:

① Input switching

- Pressing one of the INPUT buttons, 1 to 5 → Input switches over to the selected input.
- Pressing the INPUT button on the operating panel of the main unit → This switches the input to the next input.

② Screen-size switching

- Repeated pressing the SCREEN SIZE button on the remote control or the operating panel of the main unit changes screen size in the following sequence:

When reproducing video signals (signals other than PC signals) ★

→ WIDE → 4 : 3 → FULL → ZOOM →

When reproducing PC signals

→ DOT BY DOT → 4 : 3 → FULL → PARTIAL →

(NOTES) • The screen size at which playback can be performed differs according to the input signal.

See 5.1.3, "List of supported input signals".

Displays with "(TYPE)" appended, such as FULL (TYPE), will sometimes appear, indicating a simplified reproduction.

- If an HDTV signal is detected, the screen size will switch to FULL (fixed). ★
- During video playback, switching screen size to ZOOM or PARTIAL permits scrolling the screen up or down with the ▲ and ▼ buttons (V-SCROLL function).

Refer to section 5.1.4, "List of adjustable and settable items".

You will note that the act of reduction, enlargement, etc. of the screen using the screen size changing function of this machine at a coffee shop, hotel, etc. for profit or for public view may result in infringement of the right of an author protected under the Copyright Law.

③ Display call

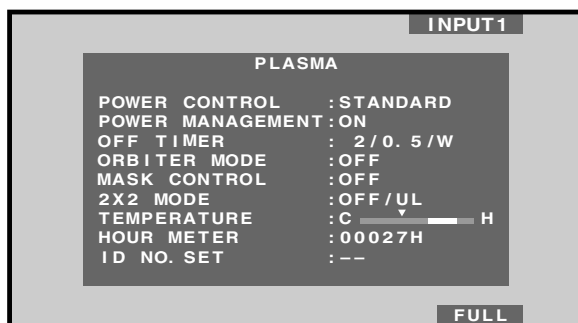
Ⓐ Press the DISPLAY button on the remote control.

→ The current input function, the incoming signal's horizontal and vertical frequencies, current screen size, and other characteristics are displayed on the screen.

(NOTE) The displayed horizontal and vertical frequencies are measured values, and there may be some error in the measurements.

Ⓑ Push and hold the DISPLAY button on the remote control or the operating panel of the main unit for two or more seconds while Ⓐ is displayed.

→ The various settings, internal temperature, etc. are displayed as shown on the screen below.



④ Volume adjustment/Muting

- Push the VOLUME + button on the remote control. → The volume increases.
- Push the VOLUME – button on the remote control. → The volume decreases.
- Push the MUTING button on the remote control. → Each time the button is pushed, it switches from MUTING ON to MUTING OFF, or vice versa.

⑤ Automatic adjustment of the screen

- During PC signal input, push the AUTO SET UP button on the remote control or main operating panel to automatically adjust the screen

(NOTES) • Adjustment is impossible during video signal input. ★
• Adjustment is impossible during INPUT 5. ★
• It may be impossible to perform adjustment correctly in the case of a low brightness signal such as a black or blue background.

⑥ Point zoom

- During PC signal input, push the POINT ZOOM button on the remote control.
→ The POINT ZOOM screen appears.
- Select the expanded area and push the SET button.
→ The expansion ratio changes as follows each time the button is pushed.
⇒ X1.5 ⇒ X2.0 ⇒ X3.0 ⇒ X4.0 ⇒
Notes) This operation is impossible during video signal input. ★

⑦ In addition to the above, several RS-232C commands are also available. Refer to section 5.5, “RS-232C Adjustment Mode”.

Menu Mode

About menu mode

1) How to enter/exit menu mode

- To enter menu mode and display the menu screen (refer to section 5.3.2, "Example of menu mode operation"), press the MENU button on the remote, or on the operating panel of the main unit while in normal operating mode. To return to normal operating mode, press the MENU button again.

2) When you carry out adjustments using menu mode:

- Each of the adjustment values for PICTURE and SCREEN will be stored separately for each input function and each input signal. For more details please refer to "5.4.5 PICTURE and WHITE BALANCE adjustment values memory area table" and "5.4.6 SCREEN adjustment values area table".

3) Notes

(1) Menu mode is canceled automatically and normal operating mode is restored in the following cases:

- When the input signal has been switched
- When switching over to another input signal frequency
- When no control is operated for a period of approximately eight minutes
- When the KEY LOCK/UNLOCK button on the operating panel of the main unit is pressed

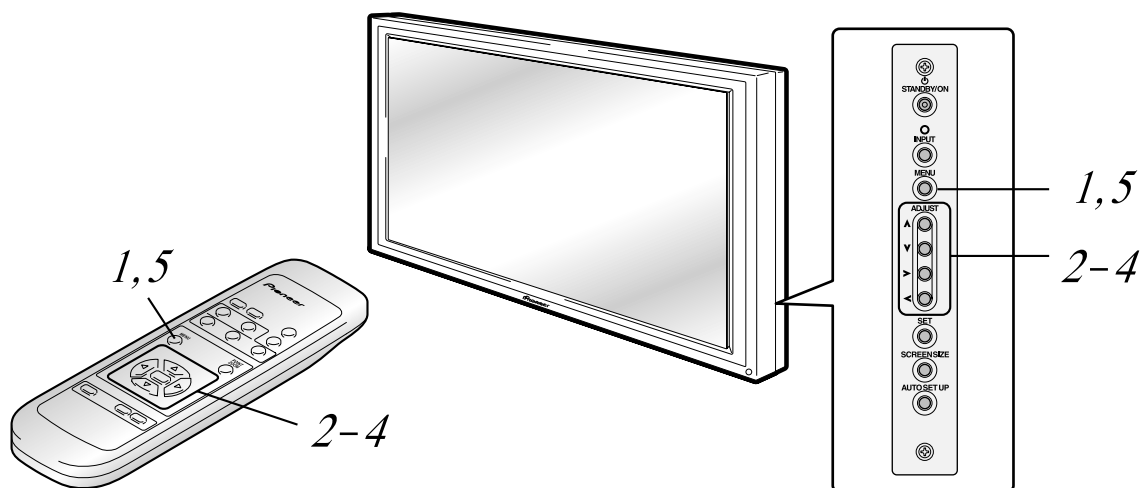
(2) For adjustments in the menu mode, refer to the operating manual.

(3) When making adjustments, we recommend using video signals that you actually intend to use.

(4) The items that can be adjusted and set vary for each input signal. Only the OPTION can be set when a video signal is not being input.

Example of menu mode operation

Adjusting contrast is shown below as an example of basic operation in menu mode.



Step

1

Switch the display on the menu screen (activating menu mode).

Remote control unit



Main unit



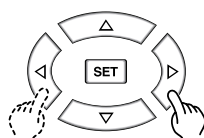
The currently selected item is highlighted in yellow.

Step

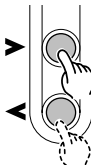
2

Select PICTURE.

Remote control unit



Main unit



The currently selected item is highlighted in yellow.

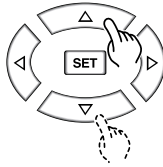
Menu Mode

Step

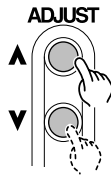
3

Select BRIGHT.

Remote control unit



Main unit

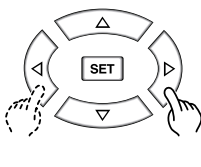


Step

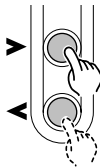
4

Make adjustments.

Remote control unit



Main unit



Press the SET button to return to the screen in step 3.

To make other adjustments, repeat steps 2 to 4.

Step

5

Complete the procedure.

Remote control unit



Main unit



Restores normal operating mode.

Settings in menu mode

1) Rewriting the input display

The content displayed onscreen can be rewritten when input is changed.

Where INPUT1 is normally displayed, for example, could be changed to display the name of a peripheral device, such as COMPUTER. (A maximum of 8 characters can be displayed.)

Example: Changing the INPUT LABEL from INPUT1 to COMPUTER

① Press the INPUT button and select INPUT1.

② Enter menu mode and select SET UP.

Screen ②



③ Select INPUT LABEL.

Screen ③



④ Move the cursor to the first relevant character (C in the example) and press the SET button. (Repeat this process to select all 8 characters.)

- Any of the 52 characters displayed on the menu screen can be used.
- When you select a character and then press the SET button, the input point will advance one character.
- If you make a mistake, select BACK SPACE and press the SET button. This will move the input point back one character.
- To restore the display to the initial setting (INPUT1, in this case), select RESET and press the SET button.
- After you have finished inputting characters, move the cursor to END and press the SET button.

Menu Mode

Setting POWER MANAGEMENT and AUTO POWER ON/OFF

To save electricity, this function automatically shifts the device into power-saving mode when no picture (sync) signal is detected.

- If not using this power-saving function
→ select OFF.
- To enter power standby if no input signal is detected after 8 min
→ select AUTO POWER OFF: ON.
- To switch between routine operating status and power-saving status, in accordance with the presence of signals
→ Select POWER MANAGEMENT: ON.

| | |
|--------------------|---|
| Set-able condition | : POWER MANAGEMENT: INPUT 1 (personal computer signal), INPUT5★ AUTO POWER OFF; other than the above |
| Factory preset | : OFF |

① Select SET UP.

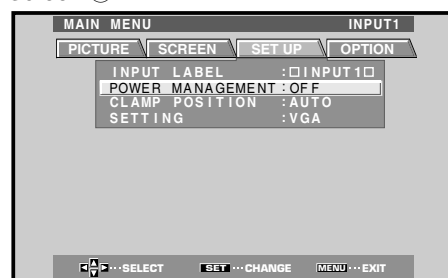
Screen ①



② Move the cursor to POWER MANAGEMENT (AUTO POWER OFF) and use the SET button to change the setting.

Setting will change between OFF and ON each time the SET button is pressed.

Screen ②



(NOTE)

- To restore routine operating status from power standby status, press the POWER button on the remote control or main unit's operation panel.
- To restore routine operating status from power-saving status, either use a personal computer or press the INPUT button on the remote control or main unit's operation panel.
- However, when there is G ON SYNC or composite SYNC input, it will not be possible to restore routine operating status via personal computer alone. The INPUT button will need to be pressed after the personal computer has been operated appropriately.
- Power consumption in power standby mode will be 1W.
- Power consumption in power-saving mode will be around 1W for INPUT 1 and around 50W for INPUT 5.

Setting the color temperature ★

The color temperature for the video input signal can be set.

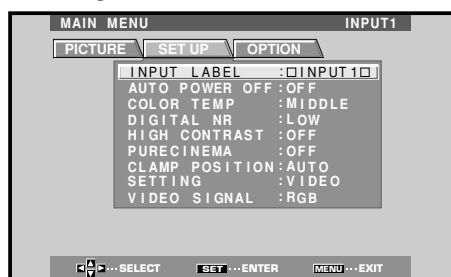
Set all the INPUT settings, 1~4, in accordance with the following.

- LOW: Equal to -3000k
- MID LOW: Equal to -2000k
- MIDDLE: + 0k (standard)
- MID HIGH: Equal to +1000k
- HIGH: Equal to +2000k

| | |
|--------------------|----------------------|
| Set-able condition | : Video signal input |
| Factory preset | : MIDDLE |

① Select SET UP.

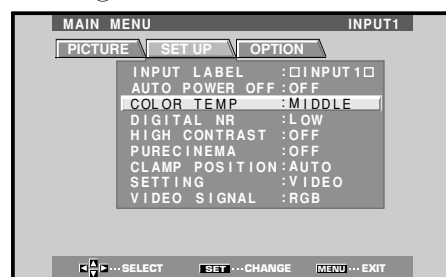
Screen ①



② The cursor on COLOR TEMP and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change as follows: MIDDLE → MID HIGH → HIGH → LOW → MID LOW →...

Screen ②



Menu Mode

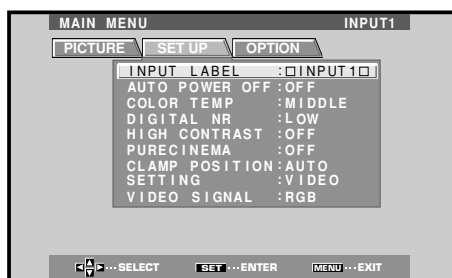
Reducing digital noise ★

The setting for the digital noise reduction function can be changed to improve the S/N rate when there is video signal input. Set all the INPUT settings, 1~4.

Set-able condition : Video signal input
Factory preset : LOW

① Select SET UP.

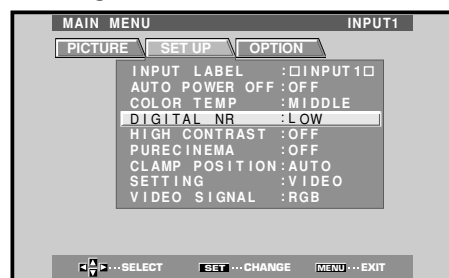
Screen ①



② Move the cursor to DIGITAL NR and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change as follows: LOW → MIDDLE → HIGH → OFF

Screen ②



Setting HIGH CONTRAST ★

This is a function that, for video signal input, emphasizes brightness by adjusting the picture's intermediate brightness. When using software involving many dark scenes or when using the unit in a bright environment, set HIGH CONTRAST to ON.

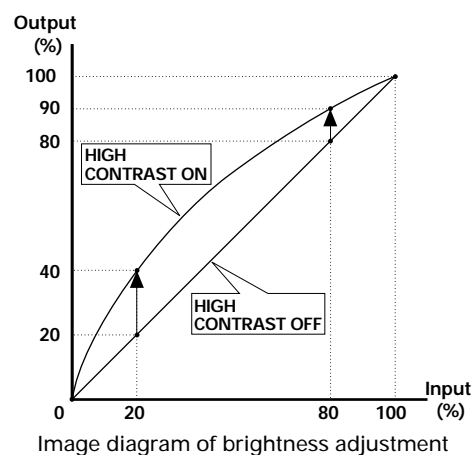
If you wish to accurately reproduce fine details (such as the texture of human skin), set HIGH CONTRAST to OFF.

Differences in the picture reproduced when HIGH CONTRAST is OFF or ON (refer to diagram at right)

OFF Reproduces input signal's brightness linearly.

ON Reproduces input signal with intermediate brightness adjusted.

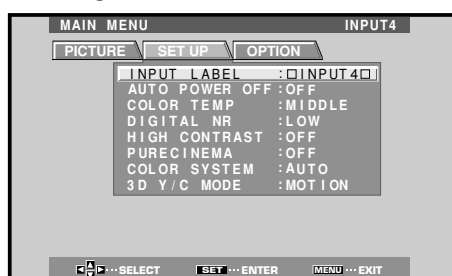
Set-able condition : Video signal input
Factory preset : OFF



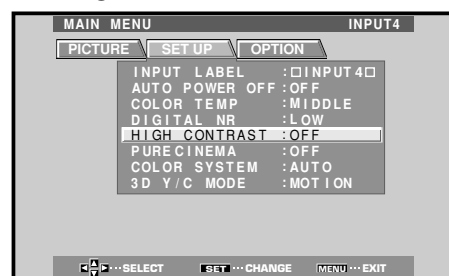
① Select SET UP.

② Move the cursor to HIGH CONTRAST and use the SET button to change the setting. Each time the SET button is pressed, the setting will switch between ON and OFF.

Screen ①



Screen ②



For INPUT 1 or INPUT 2, a screen like the following will be displayed.



Menu Mode

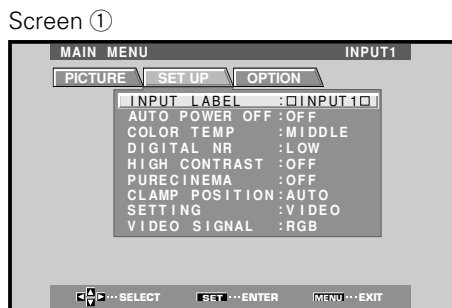
Setting PURECINEMA ★

The PURECINEMA function automatically determines picture signals taken at 24 frames per second (such as movie films) and changes the picture signal to a progressive one by means of 2-3 pulldown processes. For the standard PURECINEMA function, select HQ.

Picture processing can produce time differences with sound signals. If this is distracting, select STANDARD. If OFF (the factory preset) is selected, only the usual progressive conversion will take place.

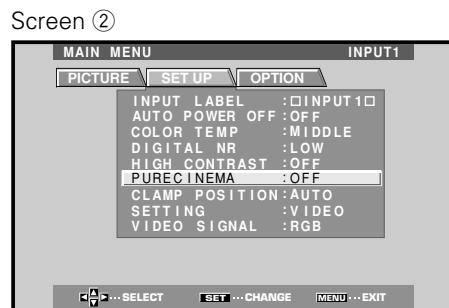
| | |
|--------------------|-------------------------------|
| Set-able condition | : 525i (480i), NTSC, 4.43NTSC |
| Factory preset | : OFF |

① Select SET UP.



② Move the cursor to PURECINEMA and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change as follows: OFF → STANDARD → HQ →...



Setting the color system ★

INPUT 3 and 4 automatically determine the various television systems used in countries around the world.

CAUTION

This unit does not handle PAL-M and PAL-N systems.

Normally, this function is set to COLOR SYSTEM: AUTO (for automatic determination). However, it sometimes does not properly reproduce VTR signals with repeated dubbing and the like (resulting in lack of color, etc.).

In this case, make settings correspond to the input signal, as follows.

Make all settings for INPUT 3 and 4.

- For NTSC signal input → select COLOR SYSTEM: NTSC.
- For PAL signal input → select COLOR SYSTEM: PAL.
- For SECAM signal input → select COLOR SYSTEM: SECAM.
- For 4.43 NTSC signal input → select COLOR SYSTEM: 4.43NTSC.

Fixing the settings when the input signal has been determined in advance will make smooth image processing possible, making it possible to reduce input switching time and prevent mistaken signal determination.

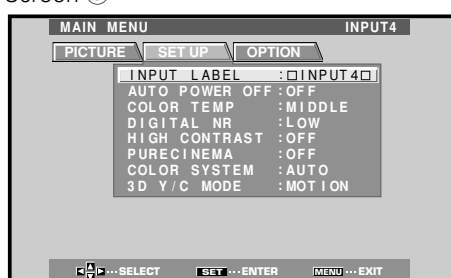
Set-able condition: INPUT 3, 4
 Factory preset: INPUT 3 : AUTO
 INPUT 4 : AUTO

① Select SET UP.

② Move the cursor to COLOR SYSTEM and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change as follows: AUTO → NTSC → PAL → SECAM → 4.43NTSC →

Screen ①



Screen ②



Menu Mode

Setting the clamp position

Simultaneous input of RGB (G ON SYNC) signals and sync signals may produce brightness inappropriately, resulting in an overly bright screen or images with a greenish cast. If this occurs, select CLAMP POSITION: LOCKED. Normally, the setting may be left on CLAMP POSITION: AUTO.

Methods for generating clamp pulse (a timing pulse necessary for reproducing brightness) are shown in Figure 1, a and b.

Figure 1: Clamp pulse generation

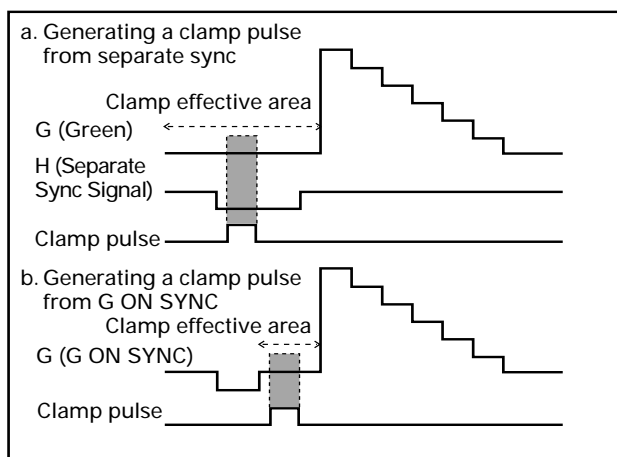
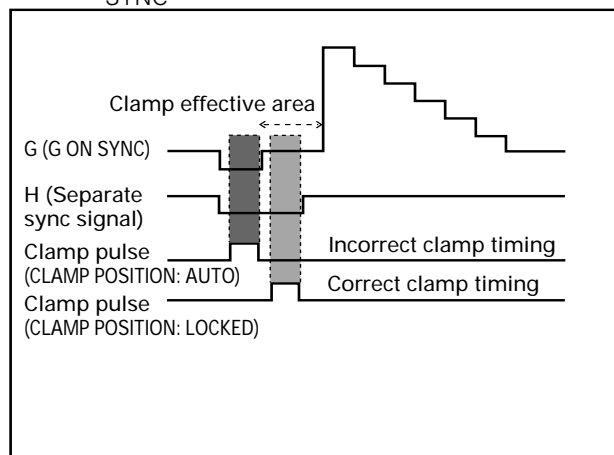


Figure 2: Simultaneous input of sync signals and G ON SYNC



With CLAMP POSITION: AUTO, separate sync signals will be monitored. The method shown in Figure 1, "a," will automatically be applied when separate sync signals are judged as present, and the method in Figure 1, "b," will be applied when they are judged as not present. However, as shown in Figure 2, if separate sync signals are input simultaneously with G ON SYNC, the former will be judged as present, and clamp pulse will be generated using the method shown in Figure 1, "a." This will result in incorrect clamp timing, preventing brightness from being produced normally.

If this occurs, either do not connect the separate sync signals or select CLAMP POSITION: LOCKED. If CLAMP POSITION: LOCKED is selected, the clamp pulse will be reproduced using the method in Figure 1, "b," whether or not separate sync signals are present. This will make it possible to produce brightness correctly.

(NOTE) The figures above are for illustrative purposes only.

(NOTE) Composite sync input may be considered to be the same as separate sync input.

Set-able condition: INPUT 1 or 2
Factory preset: AUTO

① Select SET UP.

② Move the cursor to CLAMP POSITION and use the SET button to change the setting.
Each time the SET button is pressed, the setting will change between AUTO and LOCKED.

Screen ①



Screen ②



(NOTE) Cannot be set during component picture signal input.

Setting 3D Y/C separation ★

The INPUT4 image input unit is equipped with a 3D Y/C separation circuit, the operation of which can be set. When reproducing still images, which involve no movement, select 3D Y/C MODE: STILL.

Set-able condition : INPUT 4 and NTSC
Factory preset : MOTION

① Select SET UP.

Screen ①



② Move the cursor to 3D Y/C MODE and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change between MOTION and STILL.

Screen ②



Menu Mode

Settings for peripheral equipment

In accordance with input signal frequency, this unit automatically identifies personal computer signals and video signals from DVD players and the like. Although it is equipped with function for identifying the resolution of personal computer signals, the automatic signal identification function will not operate for the following signal input: a) 31.5kHz horizontal/60Hz vertical and b) 48.4kHz horizontal/60Hz vertical or 56.5kHz horizontal/70Hz vertical. In such cases, settings must be made manually.

Make all settings for INPUT 1, 2 and 5 in accordance with the following.

Example:

When connecting an AV device → select SETTING: VIDEO.

When connecting a personal computer → select VGA, WIDE VGA, XGA or WIDE XGA in accordance with resolution.

| | |
|--------------------|--|
| Set-able condition | : INPUT 1, 2 and 5 |
| | a) For 31.5kHz horizontal and 60Hz vertical signal input |
| | b) For 48.4kHz horizontal and 60Hz vertical or 56.5kHz horizontal and 70Hz vertical signal input |
| Factory preset | : VGA, for "a" |
| | XGA, for "b" |

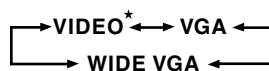
① Select SET UP.

② Select SETTING and use the <◀/▶> button to change the setting.

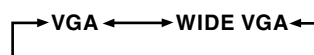
Each time the <◀/▶> button is pressed, settings will change as follows.

a) 31.5kHz horizontal/60Hz vertical signal input

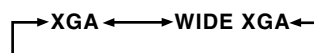
For INPUT 1 or INPUT 2:



For INPUT 5:



b) 48.4kHz horizontal/60Hz vertical or 56.5kHz horizontal/70Hz vertical input signal



Screen ①



Screen ②



Setting the input signal format ★

When a video signal is input to INPUT 1 or 2, settings must be made in keeping with peripheral devices in order to handle RGB and component picture signals.

Make all settings for INPUT 1 and 2 in accordance with the following.

Example:

When reproducing RGB signals

→ select VIDEO SIGNAL: RGB.

When reproducing signals from high-vision devices or DVD players → select VIDEO SIGNAL: COMPONENT.

| | |
|--------------------|--|
| Set-able condition | : INPUT 1 and 2, for video signal input (other than personal computer signals) |
| Factory preset | : INPUT 1: RGB INPUT 2: RGB |

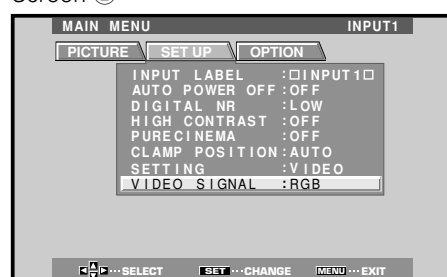
① Select SET UP.

② Move the cursor to VIDEO SIGNAL and use the SET button to change the setting.
Each time the SET button is pressed, the setting will switch between RGB and COMPONENT.

Screen ①



Screen ②



For component video picture signal input, see "5.4.3 Adjustments and settings in the integrator mode", 7) Setting component input.

Menu Mode

Setting the power control

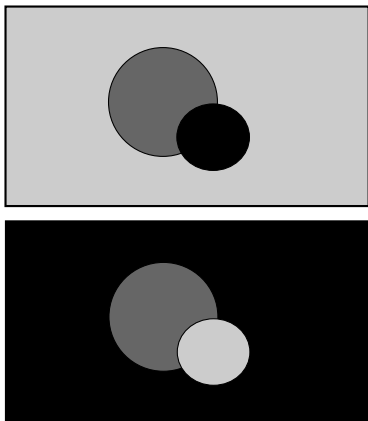
This function reduces power consumption and panel deterioration by controlling screen brightness in accordance with the input signal.

- For a bright, easy-to-see screen → select POWER CONTROL: STANDARD.
- To reduce power consumption → select POWER CONTROL: MODE1.
- To reduce panel deterioration, such as burning in → select POWER CONTROL: MODE2.

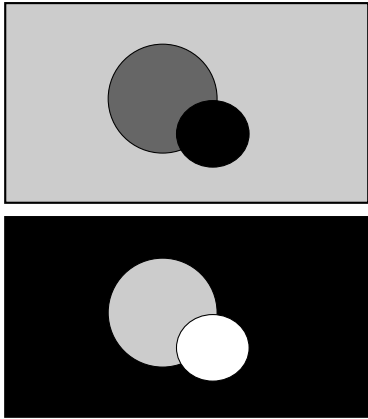
Factory preset : STANDARD

Differences in picture reproduction resulting from power control settings (illustration):

For an input signal like the following:

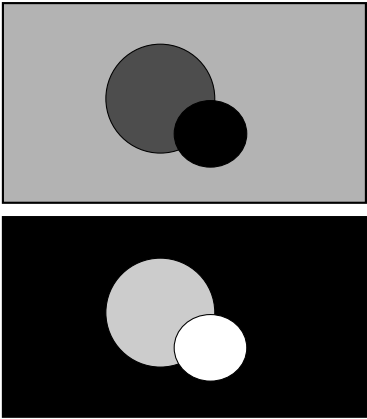


STANDARD



Upper figure: A bright picture overall, with no change (upper figure).
Lower figure: A dark picture overall, with peak brightness reproduced even brighter.

MODE1



Upper figure: Power consumption is reduced by restraining the brightness of a bright picture, overall.
Lower figure: For a picture that is dark overall, similar to STANDARD, peak brightness is made even brighter.

MODE2

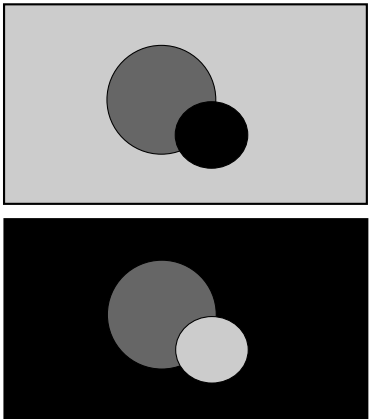


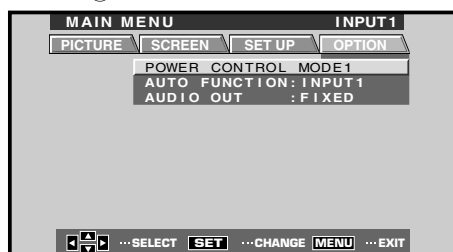
Image signal gradations are reproduced faithfully, with no control applied. The part of a dark picture, overall, for which peak brightness is not raised reduces burn-in and other types of panel deterioration.

① Select OPTION.

② Move the cursor to POWER CONTROL and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change as follows: STANDARD → MODE 1 → MODE 2 →...

Screen ①



POWER CONTROL settings are shared by all inputs (INPUT 1~5).

Menu Mode

Setting automatic input switching

Using AUTO FUNCTION to detect the signal for the set input makes it possible to automatically switch to that input. INPUT 4 cannot be selected if PDA-5002 is not mounted.

Factory preset : OFF

① Select OPTION.

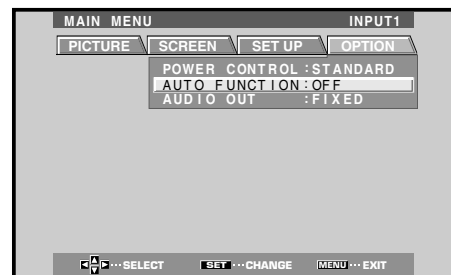
Screen ①



② Move the cursor to AUTO FUNCTION and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change as follows: OFF → INPUT1 → INPUT4* →...

Screen ②



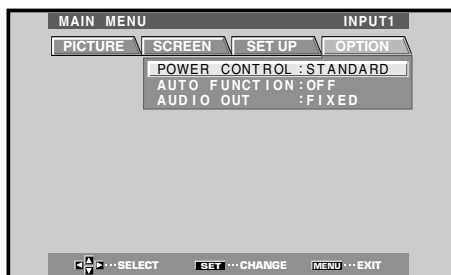
- AUTO FUNCTION will not operate if set to OFF.
- When INPUT1 or INPUT4 is selected, when a signal to the selected input is detected, that input will be automatically switched to. Thereafter, input will not be switched even if the INPUT button on the remote control or plasma display is pressed. In addition, if there is no signal input after input has been switched with AUTO FUNCTION, input will be restored to what it was before it was switched by AUTO FUNCTION.

Setting audio output

Either FIXED or VARIABLE can be selected for the volume of sound output obtained from the AUDIO OUTPUT terminal.

① Select OPTION.

Screen ①



② Move the cursor to AUDIO OUT and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change between FIXED and VARIABLE.

Screen ②



- When FIXED is selected, audio output volume will not change even if VOLUME is adjusted on the plasma display.
- When VARIABLE is selected, audio output volume will change in keeping with the adjusted value for VOLUME.

Integrator Mode

Integrator Mode

About the integrator mode

1) How to enter integrator mode

- Place the unit in integrator mode by doing the following:

Procedure: In standby, switch on power to the unit using the e remote control or the operating panel of the main unit, as follows:

MENU button → POWER button

(This procedure should be complete in three seconds.)

2) Upon entering the integrator mode

- The content of picture quality adjustment and picture location adjustment that are adjusted in menu mode are all initial values. The content of SET UP and OPTION are maintained, but COLOR TEMP becomes MIDDLE.

3) When you make adjustments in integrator mode:

- The adjusted values of PICTURE, WHITE BALANCE, and SCREEN (see 5.4.3 1) ~ 3)) are stored in memory for each input function and input signal.
However, regarding PICTURE WHITE BALANCE during PC signal input, up to 8 kinds of input signals (signal frequencies) can be stored in memory for each function.
When 9 new kinds of input signals have been adjusted, the adjustment data for the input signal that has the longest history of adjustments is erased.
- For more details please refer to “5.4.5 PICTURE and WHITE BALANCE adjustment values memory area tables” and “5.4.6 SCREEN adjustment values memory area tables”.

4) To exit integrator mode

- Press the MENU button on the remote control or on the operating panel of the main unit to restore the unit to normal operating mode.

5) NOTES:

(1) The input can't be switched while in the integrator mode.

Make sure you have switched to the appropriate input before entering the integrator mode.

It is also important to plug in signals beforehand.

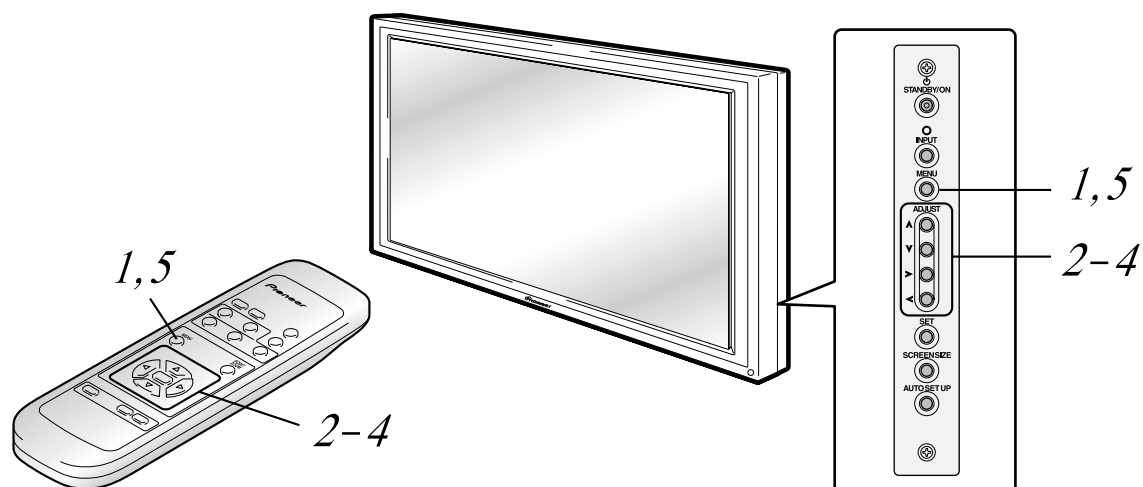
(2) Integrator mode is cancelled automatically in all of the following situations, returning to normal operating mode.

- When switching over to another input signal mode (i.e., to another signal frequency)
- When no operation occurs for a period of approximately three minutes
- When you press the KEY LOCK/UNLOCK button on the operating panel of the main unit

(3) For adjustments and settings, feed video signals that you will actually use into the production run.

Example of integrator mode operation

An example of adjustments of CONTRAST in the integrator mode is discussed below.

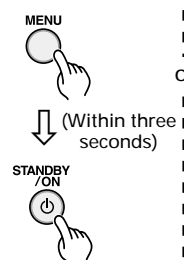


Step

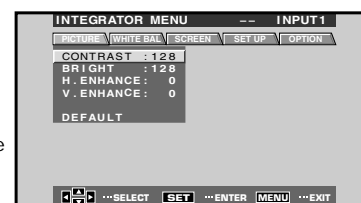
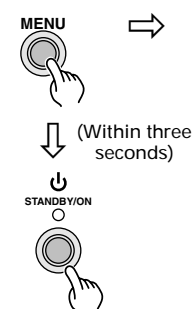
1

Put the unit into standby, and do the following.

Remote control unit



Main unit



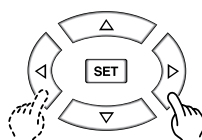
The currently selected item is highlighted in yellow.

Step

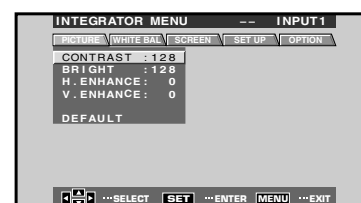
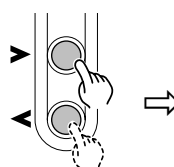
2

Select PICTURE.

Remote control unit



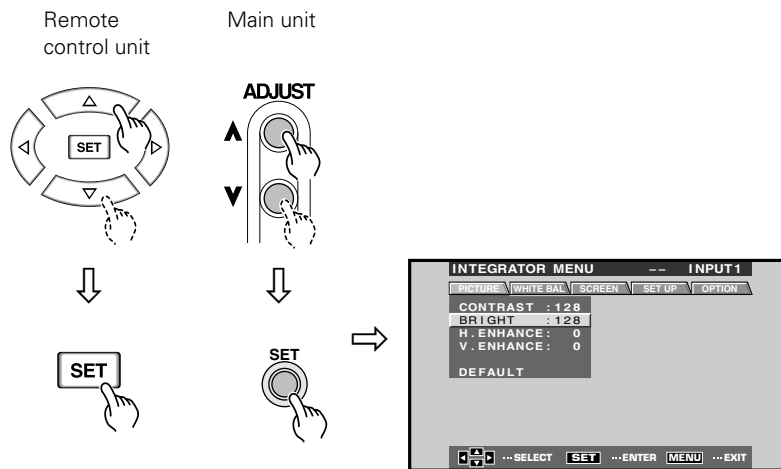
Main unit



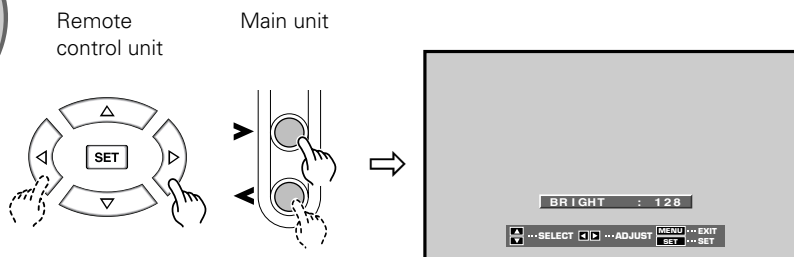
The currently selected item is highlighted in yellow.

Integrator Mode

Step 3 Select BRIGHT.



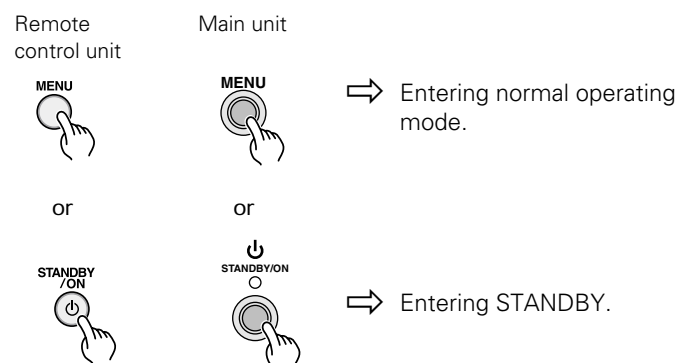
Step 4 Make adjustments.



Press the SET button to return to the screen in Step 3.

To continue to make other adjustments, repeat Steps 2 to 4.

Step 5 To complete your adjustments, exit integrator mode.



Although it is possible to exit integrator mode in other ways, such as by switching off the main power, we advise following the procedures shown at the left, in order to ensure that your adjustments are saved to memory.

Adjustments and settings in integrator mode

For detailed information, see 5.4.2, "Example of integrator mode operation."

Adjusting PICTURE (picture quality)

The items that can be adjusted here are CONTRAST, BRIGHT, COLOR, TINT, H.ENHANCE, V.ENHANCE, H.SHARP and V. SHARP. These differ somewhat from the items that can be adjusted in menu mode (see the instruction manual).

- ① Enter integrator mode and switch to the input (INPUT 1~5) you want to adjust.

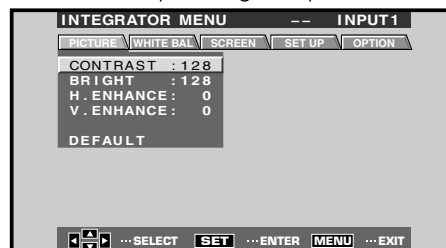
The set ID will be displayed on the upper right where the "--" mark is.

Select PICTURE and the item to adjust.

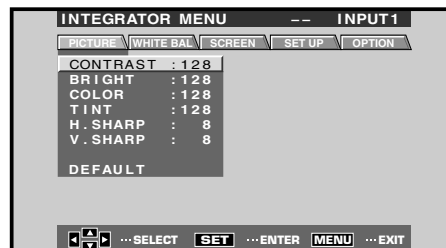
When DEFAULT is selected on screen ①, all adjustment values for PICTURE will be restored to the factory preset values.

Screen ①

Personal computer signal input



Video signal input ★



- ② Make the necessary adjustments.
(NOTE) When in INPUT 1, 2 or 5 during personal computer signal input, COLOR, TINT, H. SHARP and V. SHARP cannot be adjusted.
During video signal input, H.ENHANCE and V.ENHANCE cannot be adjusted.

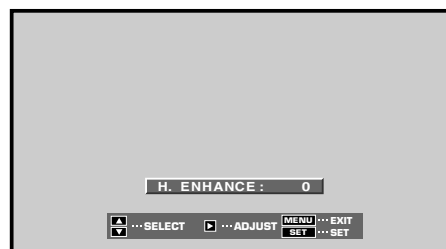
Make adjustments using the ◀ and ▶ buttons on the remote control or the main unit's operating panel.

The values adjusted here will be the initial values for adjustment in menu mode.

In addition, if SHARP is adjusted in menu mode, the amount of that adjustment will be added to both the H. SHARP and V. SHARP adjustment values in integrator mode.

Press the SET button to return to screen ②.

Screen ②



<Adjustable range> 0 to 255 for CONTRAST, BRIGHT, COLOR and TINT
0 to 15 for H.ENHANCE, V.ENHANCE, H.SHARP* and V.SHARP*.

Integrator Mode

Adjusting WHITE BALANCE

The items that can be adjusted here are R HIGH, G HIGH, B HIGH, R LOW, G LOW and B LOW.

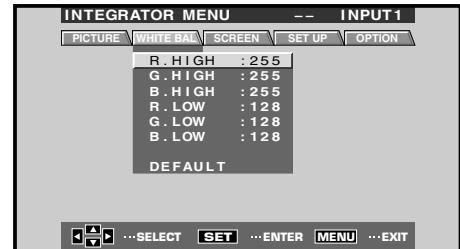
- ① Enter integrator mode and switch to the input (INPUT 1~5) you want to adjust.

The set ID will be displayed on the upper right where the “--” mark is.

Select WHITE BALANCE and the item to adjust.

When DEFAULT is selected on screen ①, all adjustment values for WHITE BALANCE will be restored to the factory preset values.

Screen ①



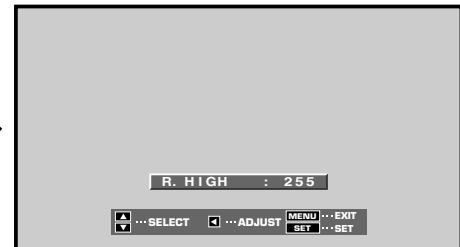
- ② Make the necessary adjustments.

Make adjustments using the ◀ and ▶ buttons on the remote control or the main unit's operating panel.

Press the SET button to return to screen ①.

<Adjustable range> 0 to 255 for each item

Screen ②



Adjusting SCREEN (screen position)

The items that can be adjusted here are H.POSITION, V.POSITION, CLOCK, PHASE and V.SIZE.

- ① Enter integrator mode and switch to the input (INPUT 1~5) you want to adjust.

The set ID will be displayed on the upper right where the " -- " mark is.

Select SCREEN and the item to adjust.

When DEFAULT is selected on screen ①, all adjustment values for SCREEN will be restored to the factory preset values.

Screen ①



- ② Make the necessary adjustments.

(NOTE) CLOCK and PHASE can only be adjusted during personal computer signal input.

Make adjustments using the ◀ and ▶ buttons on the remote control or the main unit's operating panel.

The values adjusted here will be the initial values for menu mode. Press the SET button to return to screen ①.

Screen ②



<Adjustable Range> 0 to 255 for H. POSITION, V. POSITION and CLOCK (initial value: 128)
 0 to 127 for V. SIZE (initial value: 0)
 0 to 63 for PHASE (initial value: 32)

<Adjusting Order> For the sake of efficiency, make adjustments in the following order:
 V.POSITION → H.POSITION → CLOCK → H.POSITION → PHASE → H.POSITION

Integrator Mode

Setting the 4-screen display (2x2 mode)

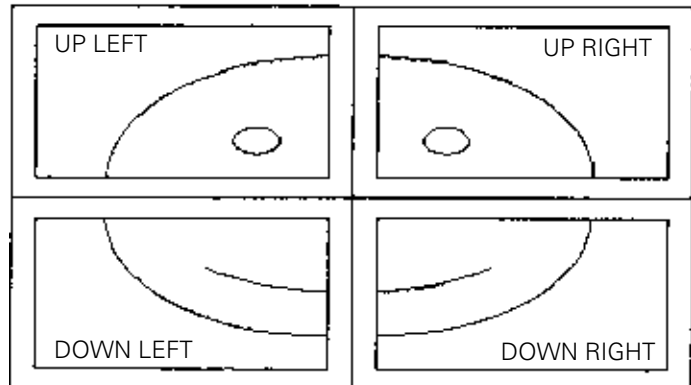
This function is for large screen display involving four units. (No consideration has been given to joints.)
For 4-screen display, set 2x2 to ON and then set LAYOUT in keeping with the positioning illustrated below.

Regular display



Factory preset : 2x2: OFF
LAYOUT: UP LEFT

4-screen display

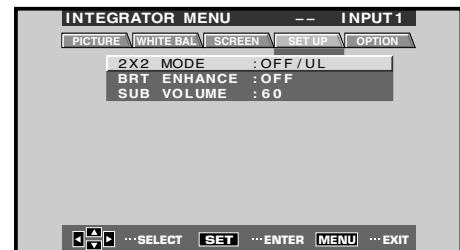


- ① Enter integrator mode. (See 5.4.1, "Integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select 2x2 MODE for SET UP.

Screen ①



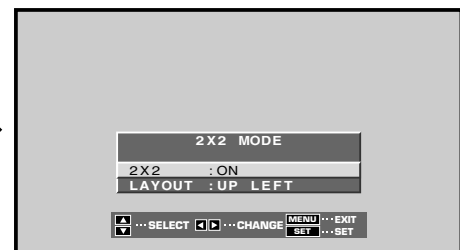
- ② Move the cursor to 2x2 and use the ◀ and ▶ buttons to change the setting.

Each time the ◀ and ▶ buttons are pressed, the setting will switch between OFF and ON.

Move the cursor to LAYOUT and use the ◀ and ▶ buttons to change the setting.

Each time the ◀ and ▶ buttons are pressed, the setting will change as follows: UP LEFT ↔ DOWN LEFT ↔ UP RIGHT ↔ DOWN RIGHT ↔ ...

Screen ②



Press the SET button to return to screen ①.

Make 2x2 MODE settings for each input (INPUT 1~5).

(NOTE) Four-screen display cannot be used with reversed display in MIRROR MODE. (Settings, however, can be changed.)

Setting brightness enhancement at screen center

This function improves and enhances the brightness of the center of the screen.

To emphasize screen brightness → set to ON

To equalize screen emphasis → set to OFF

Factory preset : OFF

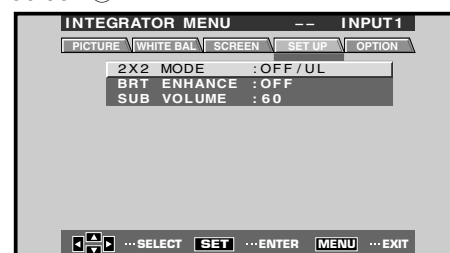
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select SET UP.

Screen ①



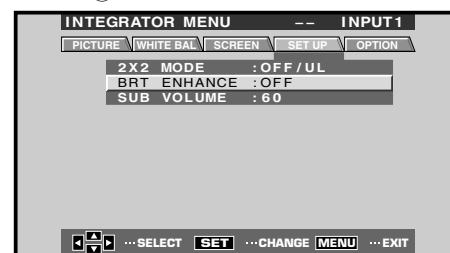
② Move the cursor to BRT ENHANCE and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change between ON and OFF.

Set BRT ENHANCE for each input (INPUT1~5).

Select EXIT on screen ② to return to screen ①.

Screen ②



(NOTE) The brightness enhancement function will not work for magnified display with 2x2 MODE: ON.
(However, settings can be changed.)

Integrator Mode

Setting the high-vision screen mode (HDTV MODE) ★

This function sets the screen to match the high-vision picture signals that are input.

When the high-vision picture signal is 1125i (1035i) → set to 1035i

When the high-vision picture signal is 1125i (1080i) → set to 1080i

Set-able condition : For 1125i/60Hz signal input
Factory preset : HDTV MODE, 1035i

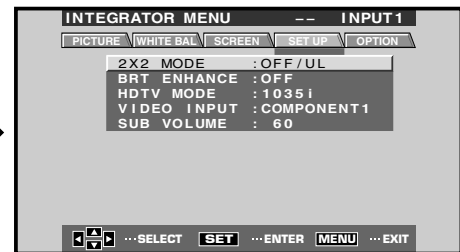
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select SET UP.

Screen ①



② Move the cursor to HDTV mode and use the SET button to change the setting.

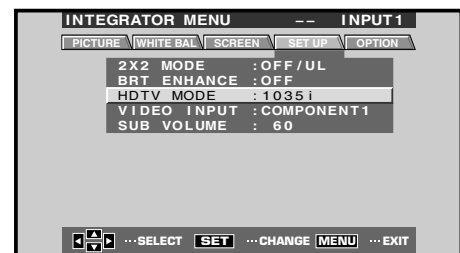
Each time the SET button is pressed, the setting will change between 1035i and 1080i.

(NOTE) If this items are not set correctly, the following problems could result.

- i) If 1080i has been set, the upper portion of the screen might not display images in part, regardless of whether the input signal is 1035i.
- ii) If 1035i has been set, information may be lost from the top of the screen, regardless of whether the input signal is 1080i.



Screen ②



Setting component input ★

INPUT 1 and 2 handle two kinds of component picture signals.

Set them in accordance with the peripheral devices used.

Make each of the settings for INPUT 1 and 2, in accordance with the following.

For Y Pb Pr input (from high-vision devices, etc.) → select VIDEO INPUT: COMPONENT1

For Y Cb Cr input (from DVD players, etc.) → select VIDEO INPUT: COMPONENT2

| | |
|--------------------|--|
| Set-able condition | : INPUT 1 and 2, during video signal input (other than personal computer signals) |
| Factory preset | : COMPONENT2 for 525i, 525p, 625i and 625p input COMPONENT1 for 1125i, 1125p and 750p input |

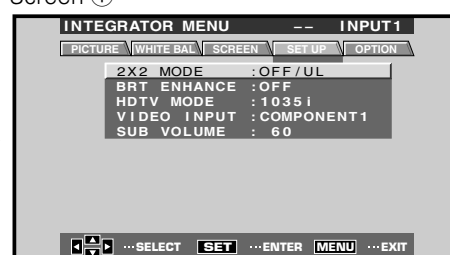
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select SET UP.

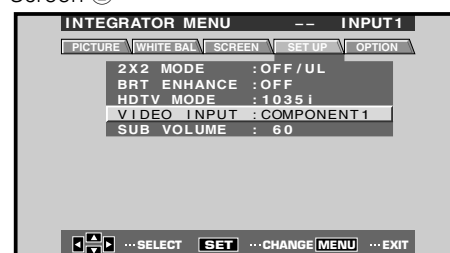
Screen ①



② Move the cursor to VIDEO INPUT and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change between COMPONENT1 and COMPONENT2.

Screen ②



Integrator Mode

Adjusting SUB VOLUME

This item adjusts the sound input level for each input.

It is convenient for adjusting levels between different sources (such as DVD players, personal computers, etc.).

First release sound silencing. Then, enter integrator mode and adjust appropriately.

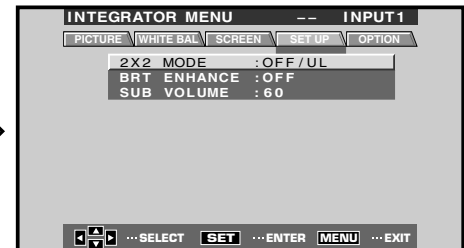
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

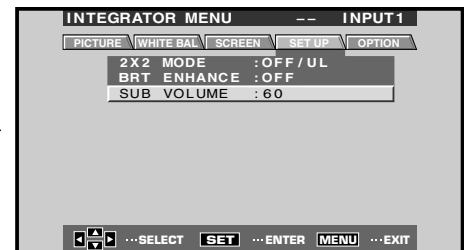
Select SET UP.

Screen ①



② Select SUB VOLUME.

Screen ②



③ Make the necessary adjustments.

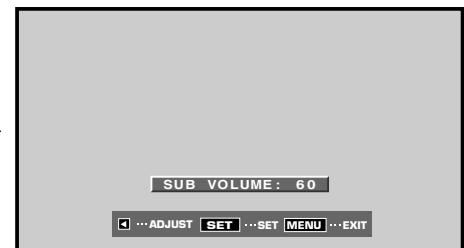
Make adjustments using the ◀ and ▶ buttons on the remote control or the main unit's operating panel.

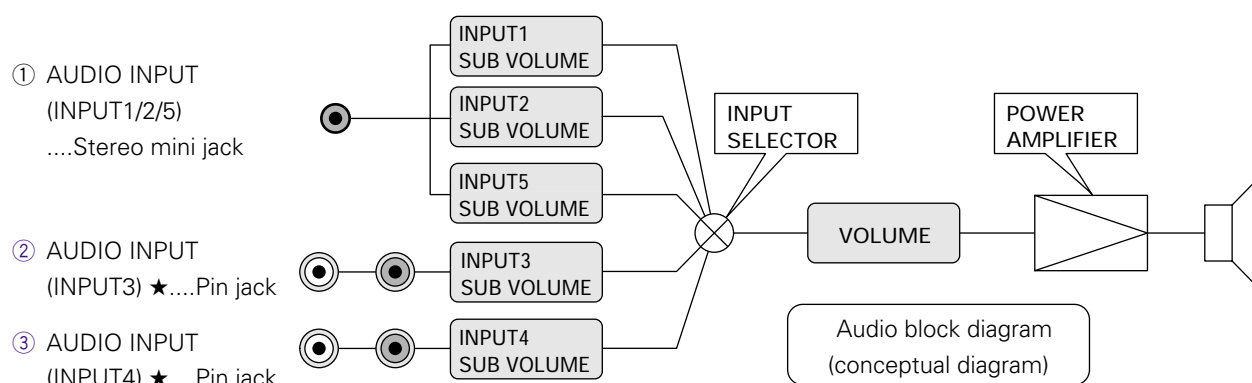
Press the SET button to return to screen ②.

<Adjustable Range> 0 to 60 for each item

<Adjusting Order> For the sake of efficiency, make adjustments in the following order:
(1) VOLUME (routine operating mode): Raises the volume to the actual usage status.
(2) SUB VOLUME (integrator mode): Adjusts high-volume input in keeping with low-volume input.

Screen ③





This unit is equipped with 3 audio input systems.

<PDP-503CMX/PDP-503MXE>

① AUDIO INPUT (INPUT1, 2 and 5): Stereo mini jack

→ Is selected in common when PICTURE INPUT 1, 2 or 5 has been selected.

<PDA-5002>

② AUDIO INPUT (INPUT3): Pin jack

→ Is selected when PICTURE INPUT 3 has been selected.

③ AUDIO INPUT (INPUT4): Pin jack

→ Is selected when PICTURE INPUT 4 has been selected.

Use of SUB VOLUME: Example 1

When a personal computer is connected to INPUT 1 (picture input only) and a DVD player has been connected to INPUT2 (pictures and sound):

→ Will reproduce the DVD player's sound when PICTURE INPUT 1 or 2 has been selected.

When sound is not necessary with personal computer input (INPUT 1), set the SUB VOLUME for INPUT 1 to 0.

Use of SUB VOLUME: Example 2

When a DVD player is connected to INPUT 3 (pictures and sound) and a personal computer to INPUT 5 (pictures and sound):

→ When the difference in volume between the DVD player and personal computer is distracting, adjust SUB VOLUME for whichever source is louder.

Integrator Mode

Setting the OSD display

This function suppresses the OSD display (INPUT display, etc.) in normal operating mode.

Even while OSD is OFF, the following OSD displays are possible.

- ① MENU display (menu mode and integrator mode)
- ② Warning just prior to AUTO POWER OFF or power management function operation
- ③ Warning from self-diagnosis function when interior temperature of set has become high
- ④ Announcements while KEY LOCK is in effect and KEY LOCK/UNLOCK setting displays
- ⑤ Display calls (including)

When OSD display is not necessary, owing to automatic running directions and the like → select OFF.

Factory preset : ON

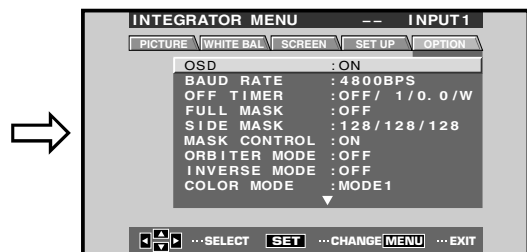
- ① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

Screen ①

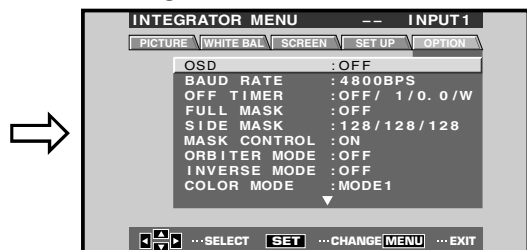


- ② Move the cursor to OSD and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change between ON and OFF.

OSD applies to all inputs (INPUT1~5).

Screen ②



Setting the baud rate

When controlling or adjusting the unit from a PC, the RS-232C port can be set to one of six communication speeds (baud rates): 1200, 2400, 4800, 9600, 19200 and 38400BPS.

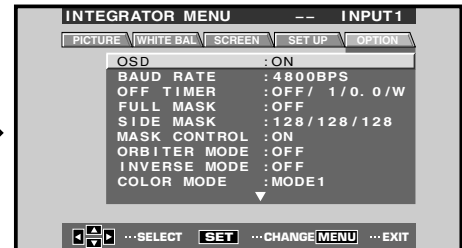
Factory preset : 4800BPS

- ① Enter integrator mode.
(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

Screen ①

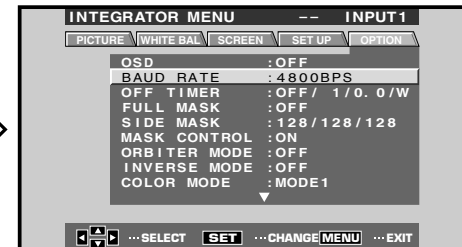


- ② Move the cursor to BAUD RATE and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change as follows: 4800BPS → 9600BPS → 19200BPS → 38400BPS → 1200BPS → 2400BPS → ...

BAUD RATE applies to all inputs (INPUT1~5).

Screen ②



Set the unit's baud rate to match the PC's.

With long RS-232C cables, we recommend setting lower baud rates.

Integrator Mode

Setting OFF TIMER

This function automatically puts the power supply on standby status after a set time has elapsed. To alleviate screen burn-in, the full mask can be displayed for a set time before standby status goes into effect.

If settings are made as follows,

TIMER: ON
DISPLAY TIME: 10H
MASK TIME: 2.5H
MASK COLOR: WHITE

then after 10 hours of normal operation, a mask will be displayed (white) for 2.5 hours. Then, standby status will go into effect. (At this time, the power supply will remain on for last memory.)

Factory preset : TIMER: OFF
DISPLAY TIME: 1H
MASK TIME: 0.0H
MASK COLOR: WHITE

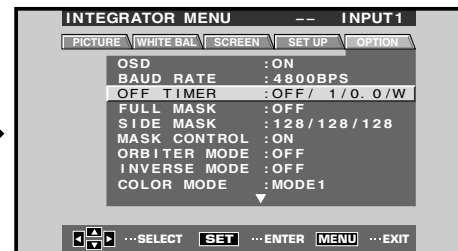
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OFF TIMER under OPTION.

Screen ①



② Select the item and use the ◀ and ▶ buttons to change the setting.

The TIMER setting will switch between OFF and ON.

DISPLAY TIME will change in one-hour increments, between 1 and 24H, as follows: ... ↔ 1H ↔ 2H ↔ ... ↔ 24H ↔ 1H...

MASK TIME will change in half-hour increments, between 0.0 and 9.5H, as follows: ... ↔ 0.0H ↔ 0.5H ↔ ... ↔ 9.5H ↔ 0.0H ↔ ...

MASK COLOR will change as follows: ... ↔ WHITE ↔ RED ↔ GREEN ↔ BLUE ↔ ...

Press the SET button to return to screen ①.

OFF TIMER is shared by all inputs (INPUT1~5).

Screen ②



Setting FULL MASK

This function uses the PDP internal signal to display the entire screen as one color: red, white, green or blue.
 For settings other than FULL MASK: OFF, external input signals cannot be displayed.
 It is an emergency measure for handling screen burn-in (although it cannot completely eliminate it).
 For details, see 5.8, "Regarding the problem of images become burnt onto the screen."

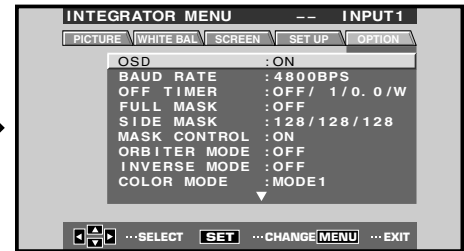
Factory preset : OFF

- ① Enter integrator mode.
 (See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

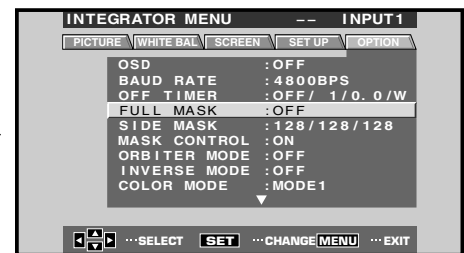
Screen ①



- ② Move the cursor to FULL MASK and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change as follows: OFF → WHITE → RED → GREEN → BLUE → ...
 After setting the color for the full mask, press the MENU button and leave integrator mode. This will display the full mask.

Screen ②



FULL MASK applies to all inputs (INPUT1~5).

Selecting EXIT on screen ② to return to screen ①.

(NOTE) The full mask will not be displayed when OFF TIMER is set to TIMER: ON. (However, settings can be changed.)

Integrator Mode

Adjusting SIDE MASK

This item adjusts the brightness of 4:3, DOT BY DOT and other non-image parts around the screen.

Brightness can be adjusted separately from RGB.

When making adjustments, pay attention to the brightness balance between the picture signals displayed and the adjoining sets.

(NOTE) A striped pattern may appear on top of the mask during adjustment, but this is not a defect.

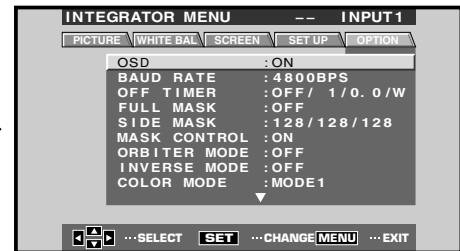
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

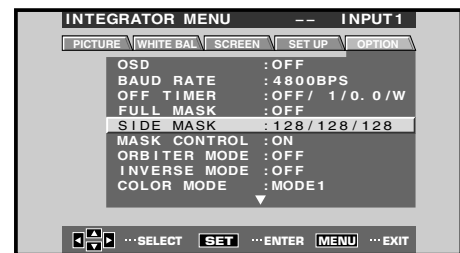
Screen ①



② Select SIDE MASK.



Screen ②



③ Make the necessary adjustments.

Make adjustments using the ◀ and ▶ buttons on the remote control or the main unit's operating panel.

When DEFAULT is selected on screen ③, all SIDE MASK adjustment values will be restored to the factory preset values.



Screen ②



Press the SET button to return to screen ②.

<Adjustable range> 0 to 255 for each item.

SIDE MASK applies to all inputs (INPUT1~5).

Setting MASK CONTROL

When MASK CONTROL is set to ON and image size is DOT BY DOT or 4:3, the display position of non-image parts around the screen will change slightly each time the power is applied to prevent screen burn-in.

When MASK CONTROL is OFF, the display position will remain stable.

Factory preset : ON

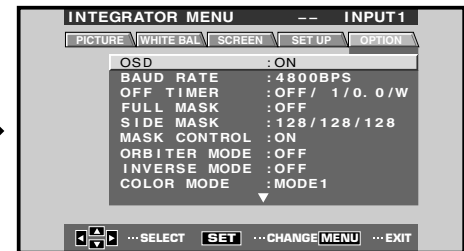
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

Screen ①

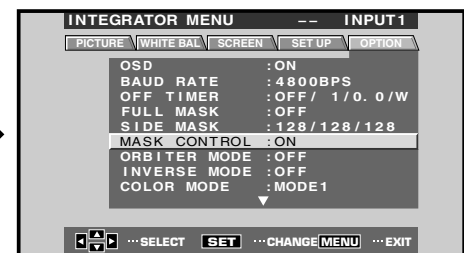


② Move the cursor to MASK CONTROL and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change between ON and OFF.

MASK CONTROL applies to all inputs (INPUT1~5).

Screen ②



Integrator Mode

Setting ORBITER MODE

This function moves the screen's display position little by little over time. (Around every 8 minutes, the position is shifted horizontally and vertically 1 bit each (range: ± 3 bits).

When ORBITER MODE is set ON, it will work to reduce the occurrence of screen burn-in when still images are displayed.

Factory preset : OFF

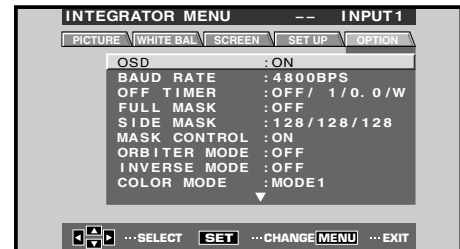
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

Screen ①

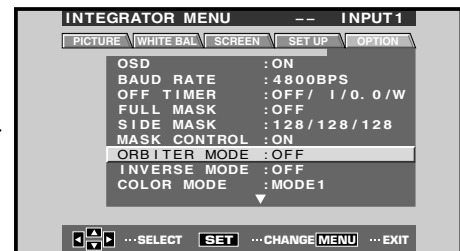


② Move the cursor to ORBITER MODE and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change between OFF and ON.

ORBITER MODE applies to all inputs (INPUT1~5).

Screen ②



Setting INVERSE MODE (negative-positive inversion)

This function is for negative-positive inversion of displayed images. It is an emergency measure for handling screen burn-in occurring when still images are displayed (although it cannot completely eliminate it).

Factory preset : OFF

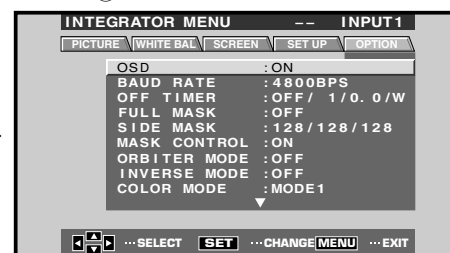
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

Screen ①

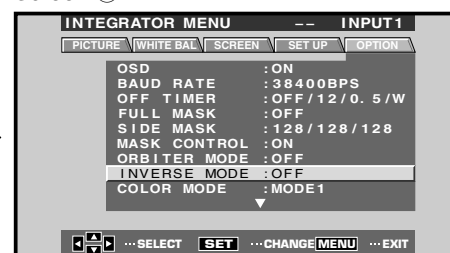


② Move the cursor to INVERSE MODE and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change between OFF and ON.

INVERSE MODE applies to all inputs (INPUT1~5).

Screen ②



Integrator Mode

Setting COLOR MODE

In addition to values for normal operation (COLOR MODE1), this unit has independent and separate PICTURE and WHITE BALANCE adjustment values set to be optimal for TV studio retakes (COLOR MODE 2).

(See 5.4.4, "PICTURE and WHITE BALANCE adjustment values memory area tables.")

Change the settings to suit your usage purpose.

Factory preset : COLOR MODE: MODE1

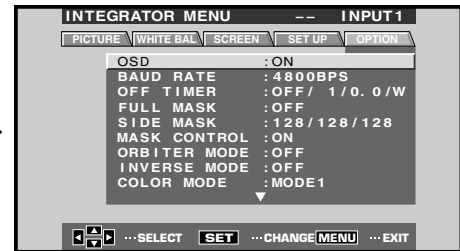
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

Screen ①

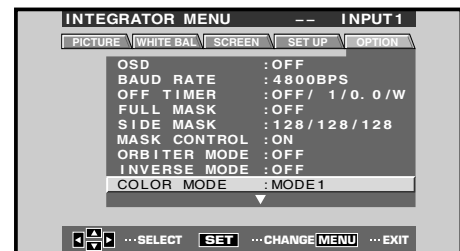


② Move the cursor to COLOR MODE and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change between MODE1 and MODE2.

When the COLOR MODE setting is changed, all input functions and input signal PICTURE and WHITE BALANCE adjustment values will be changed all at once.

Screen ②



COLOR MODE applies to all inputs (INPUT1~5).

(NOTE) The current color mode setting status can be confirmed by the display color of the character string at the very top of the screen.

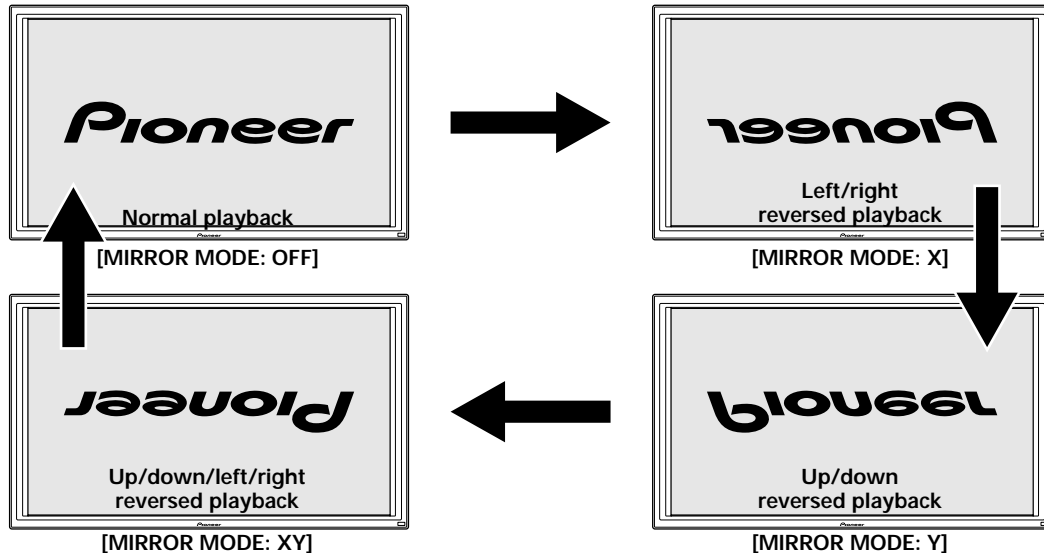
White: COLOR MODE: MODE 1

Yellow: COLOR MODE: MODE 2

Setting MIRROR MODE

This function permits displayed images to be reversed in various ways.

- Normal playback → MIRROR MODE: OFF
- Left-right reversed playback → MIRROR MODE: X
- Up-down reversed playback → MIRROR MODE: Y
- Up-down, left-right reversed playback → MIRROR MODE: XY



The MIRROR MODE: XY setting is useful for smart cable arrangement, making it possible to draw bundled cables upward (towards the ceiling) when the display is mounted upside-down using ceiling suspension hardware (PDK-5012).

(NOTE) In using the PDK-5012 hardware, observe the operating temperature restrictions and other limitations specified in section 4.8, "Plasma Display Ceiling Suspension Hardware: PDK-5012."

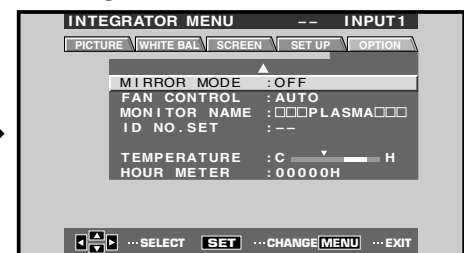
Factory preset : MIRROR MODE: OFF

- ① Enter integrator mode.
(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

Screen ①



- ② Move the cursor to MIRROR MODE and use the SET button to change the setting.

Each time the SET button is pressed, the setting will change as follows: OFF → X → Y → XY → ...

MIRROR MODE applies to all inputs (INPUT1~5).

Screen ②



Integrator Mode

Setting the cooling fan control formula

The back of the main unit is equipped with cooling fans.

This function switches the control formats of the cooling fans.

- To use the internal temperature sensor to automatically control fans → select AUTO
- To set a fixed number of maximum revolutions (thus cutting automatic control) → set MAX

(NOTE) The MAX setting is useful when special installation applies.

However, as fan rotation noise will be substantial, this setting should be used carefully in consideration of the surrounding environment (particularly if the unit is installed in a quiet place).

For more details on installation, see Chapter 3, "Installation."

Factory preset : AUTO

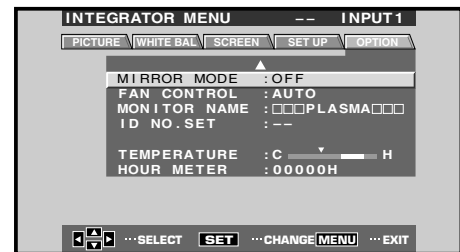
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

Screen ①



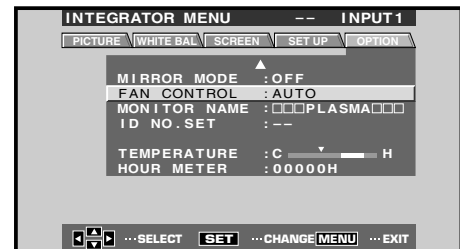
② Move the cursor to FAN CONTROL and use the SET button to change the setting.

Each time the SET button is pressed, the setting will switch between AUTO and MAX.

FAN CONTROL applies to all inputs (INPUT1~5).



Screen ②



Assigning a name to the monitor

One name can be assigned per set.

Factory preset : □□□PLASMA□□□

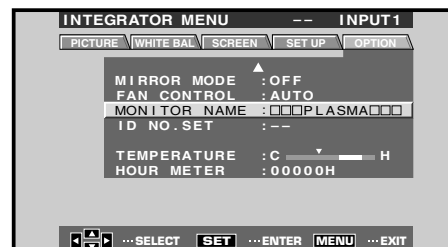
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select MONITOR NAME under OPTION.

Screen ①



② Move the cursor to the first character and press the SET button. (Repeat this process to select all 12 characters.)

- Any of the 52 characters displayed on the menu screen can be used.
- When you select a character and then press the SET button, the input point will advance one character.
- If you make a mistake, select **BACK SPACE** and press the SET button. This will move the input point back one character.
- To restore the display to the initial setting (PLASMA), select **RESET** and press the SET button.

Screen ②



After you have finished inputting characters, move the cursor to **END** and press the SET button.

MONITOR NAME applies to all inputs (INPUT1~5).

Integrator Mode

Assigning an ID

Here, an ID is assigned necessary for making adjustments in RS-232C adjustment mode.
For details, see 5.5, "RS-232C adjustment mode."

Factory preset : --

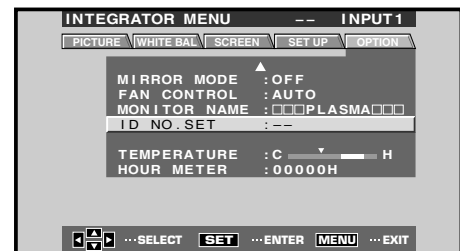
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select ID NO. SET under OPTION.

Screen ①



② Use the ◀ and ▶ buttons to select the appropriate digit and then use the ▲ and ▼ buttons to change the numerical values.

IDs can be set from 00 to FF.

Screen ②



Input settings when using a video card other than the PDA-5002

Make settings in accordance with the input signals from the video card provided.

For details, see the instruction manual on video cards.

(NOTE) These items cannot be set if no video card has been provided or the PDA-5002 has been provided. (Items will not be displayed.)

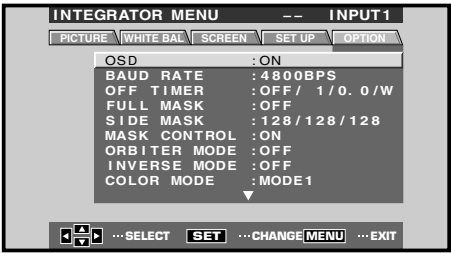
Factory preset : VIDEO (RGB)

- ① Enter integrator mode.
(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

Screen ①

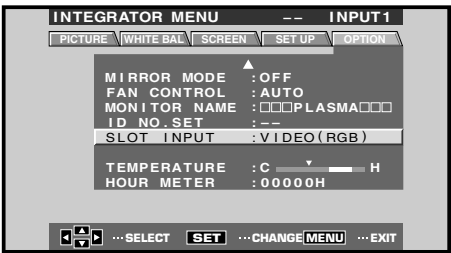


- ② Move the cursor to SLOT INPUT and then use the SET button to change the setting.

Each time the SET button is pressed, the setting will change as follows: VIDEO (RGB) → COMPONENT1 → COMPONENT2 → ...

SLOT INPUT applies to all input.

Screen ②



Integrator Mode

Simple checking of internal temperature

This function enables the unit's internal temperature to be **easily** checked using the level meter indicator.

When the indicator is green → internal temperature is normal.

When the indicator is yellow or red → internal temperature is slightly high. Turn OFF the power supply once, confirm installation status immediately, and then use air conditioning or the like to counteract the heat radiation.

CAUTION

When checking the internal temperature, conduct aging thoroughly, just as before making adjustments.
(Minimum: 30 min. with a 100% white signal.)

The same applies to checking the effect of countermeasures to heat radiation.

For more details, see Chapter 3, "Installation."

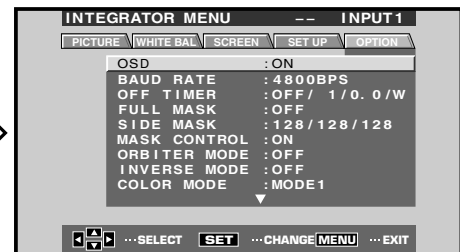
① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

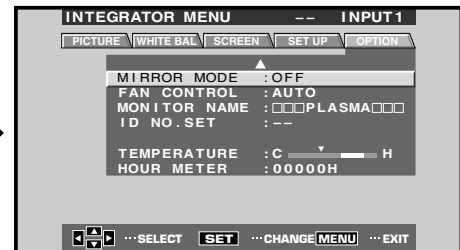
Screen ①



② Use TEMPERATURE to check the internal temperature.

Temperature can also be checked by depressing the DISPLAY button for over 2 seconds in normal operating mode. (See 5.2.1, "About normal operating mode.")

Screen ②



Checking the accumulated ON time

This function displays the accumulated time (in 1-hour units) for which the unit has been receiving power.

CAUTION

The accumulated time does not include the time when the unit is in standby mode.

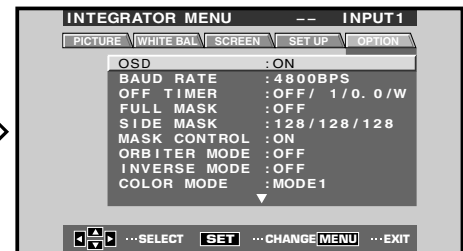
- ① Enter integrator mode.

(See 5.4.1, "About the integrator mode.")

The set ID will be displayed on the upper right where the "--" mark is.

Select OPTION.

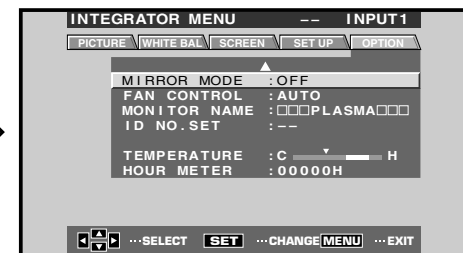
Screen ①



- ② Use HOUR METER to check the accumulated ON time.

The accumulated ON time can also be checked by depressing the DISPLAY button for over 2 seconds in normal operating mode. (See 5.2.1, "About normal operating mode.")

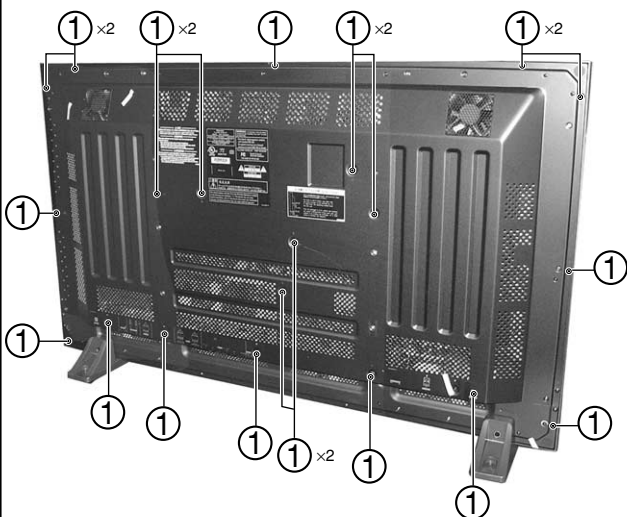
Screen ②



DISASSEMBLY

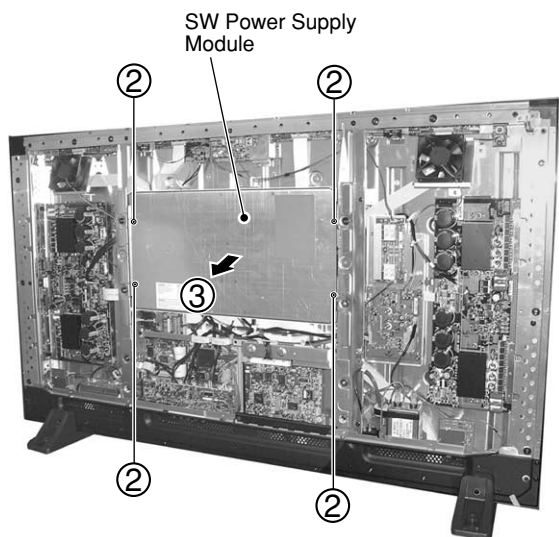
SW Power Supply Module

- ① Remove the Rear Case (50M). (Screws × 20)



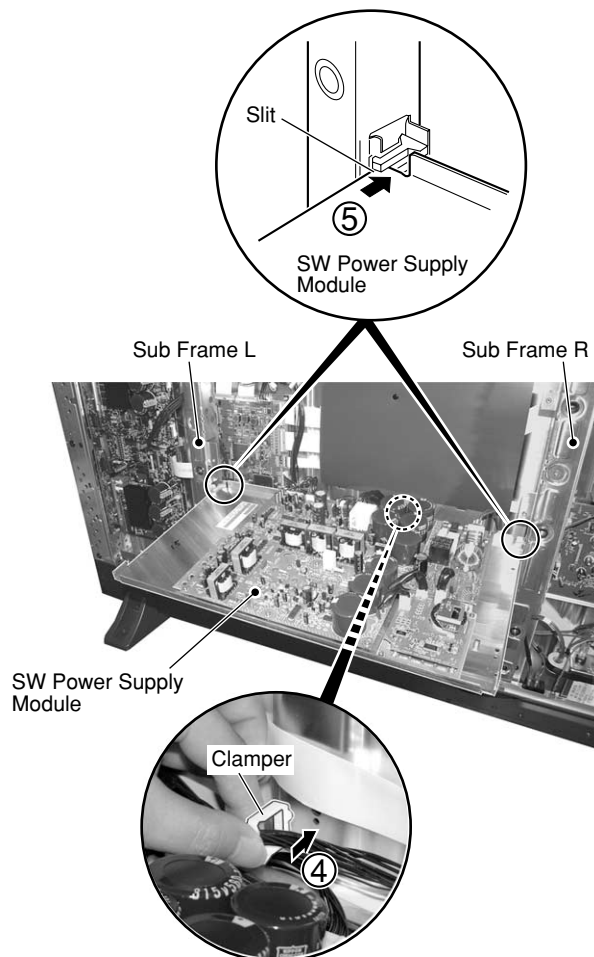
- ② Remove four screws.

- ③ Remove the SW Power Supply Module.



- ④ Insert it and reduce the Clamper.

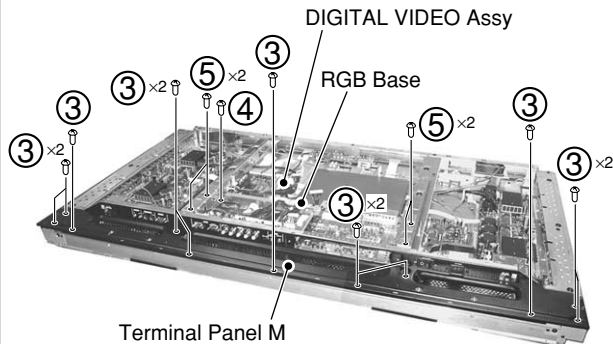
- ⑤ Insert the SW Power Supply Module into the slit of Sub Frame L and R.



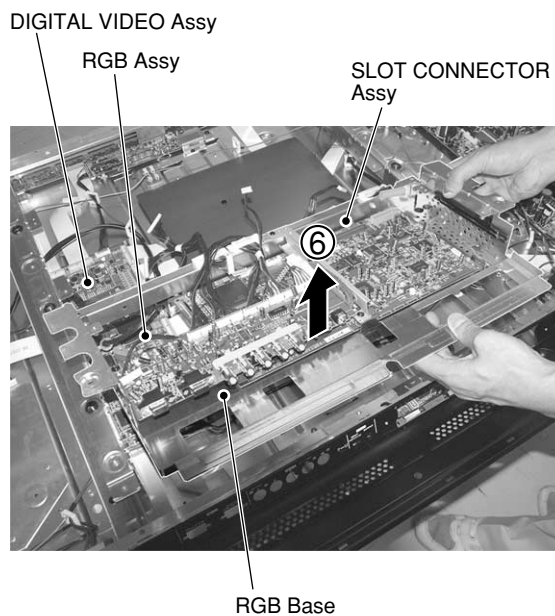
Diagnosis

DIGITAL VIDEO Assy

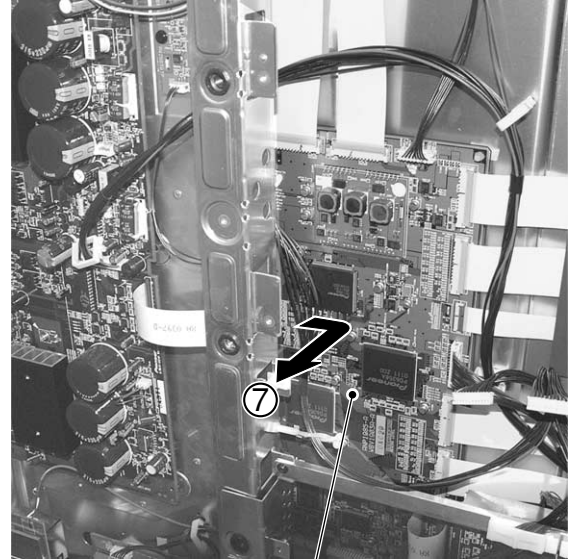
- ① Remove the Rear Case (50M). (Screws × 20)
- ② Remove the SW Power Supply Module.
(Connector, Screws × 4)
- ③ Remove the Terminal Panel M. (Screws × 11)
- ④ Remove a screw of earth block.
- ⑤ Remove the RGB Base. (Screws × 4)



- ⑥ Remove connectors and binders, and remove the RGB Base with PCB Assys.



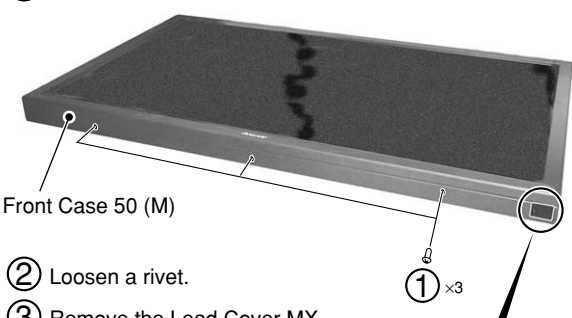
- ⑦ Remove the DIGITAL VIDEO Assy.
(Connector, Circuit Board Spacer × 6)



DIGITAL VIDEO Assy

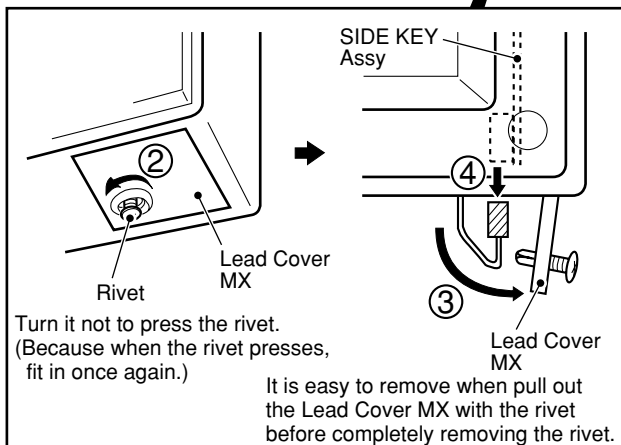
Y DRIVE, SCAN (A), (B) Assy

- ① Remove the three screws.



Front Case 50 (M)

- ② Loosen a rivet.
- ③ Remove the Lead Cover MX.
- ④ Pull out a Flexible Cable.



SIDE KEY Assy

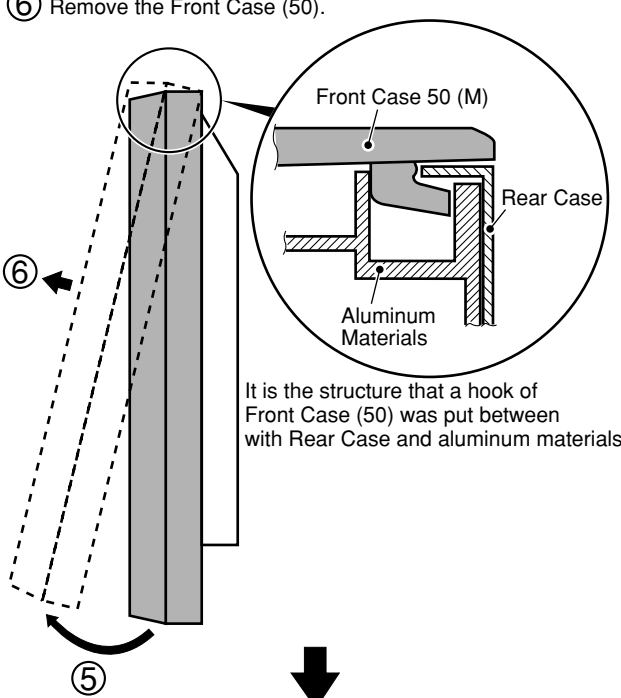
Rivet

Lead Cover MX

Turn it not to press the rivet.
(Because when the rivet presses, fit in once again.)

It is easy to remove when pull out the Lead Cover MX with the rivet before completely removing the rivet.

- ⑤ Remove bottom by the fulcrum at the top of Front Case (50).
- ⑥ Remove the Front Case (50).



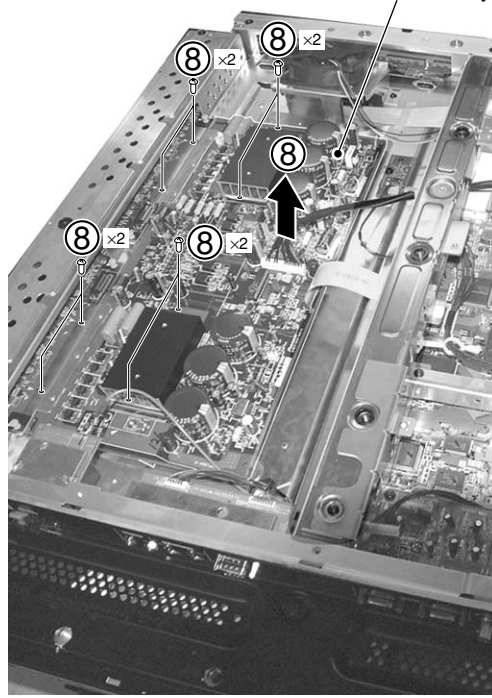
Front Case 50 (M)

Rear Case

Aluminum Materials

It is the structure that a hook of Front Case (50) was put between with Rear Case and aluminum materials.

- ⑦ Remove the Rear Case 50 (M). (Screws × 20)
- ⑧ Remove the Y DRIVE Assy.
(Connector, Screws × 8)



Y DRIVE Assy

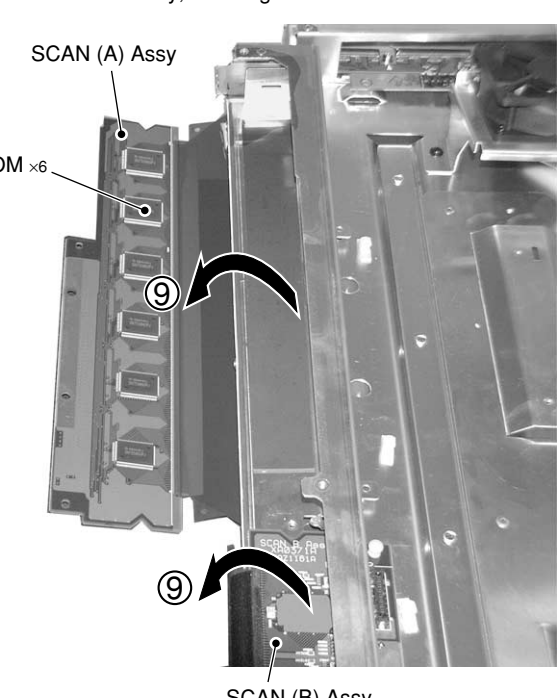
⑧ x2

⑧ x2

⑧ x2

⑧ x2

- ⑨ Reverse the SCAN (A) and SCAN (B) Assemblies.
- ⑩ When it is necessary, exchange the ROM.



SCAN (A) Assy

ROM x6

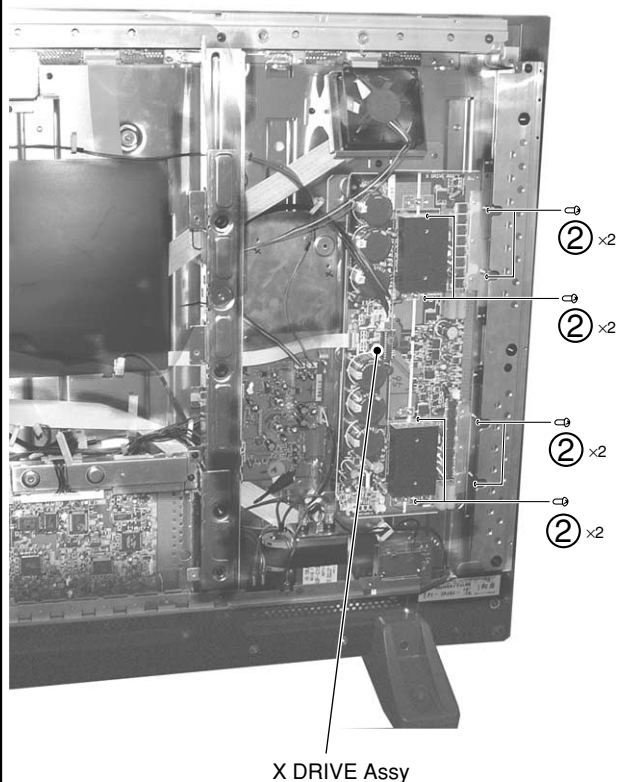
⑨

⑨

SCAN (B) Assy

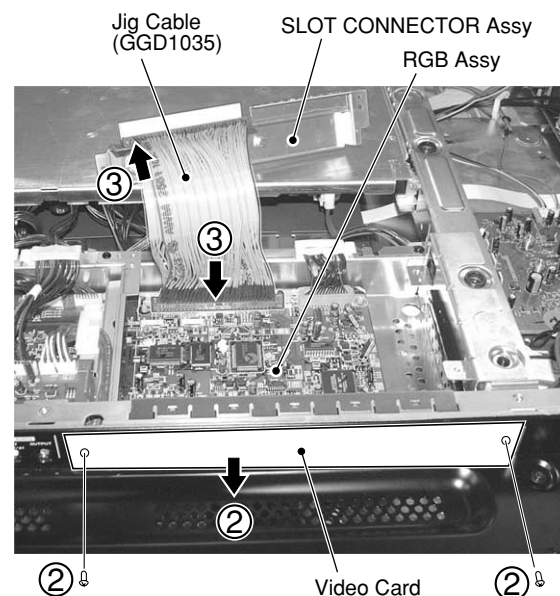
X DRIVE Assy

- ① Remove the Rear Case (50M). (Screws × 20)
- ② Remove the X DRIVE Assy. (Connector, Screws × 8)

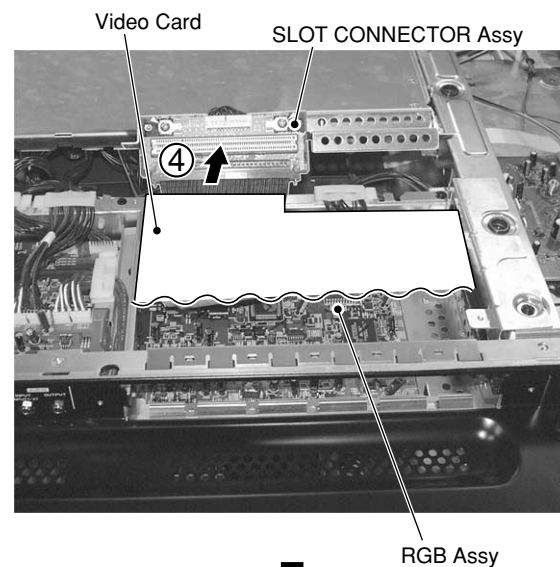


Diagnosis of the Video Card (PDA-5002)

- ① Remove the Rear Case (50M). (Screws × 20)
- ② Remove the Video Card. (Screws × 2)
- ③ Remove the SLOT CONNECTOR Assy from the RGB Assy and reconnect it with the Jig Cable (GGD1035).



- ④ Reconnect the Video Card. (Slot does not pass it.)



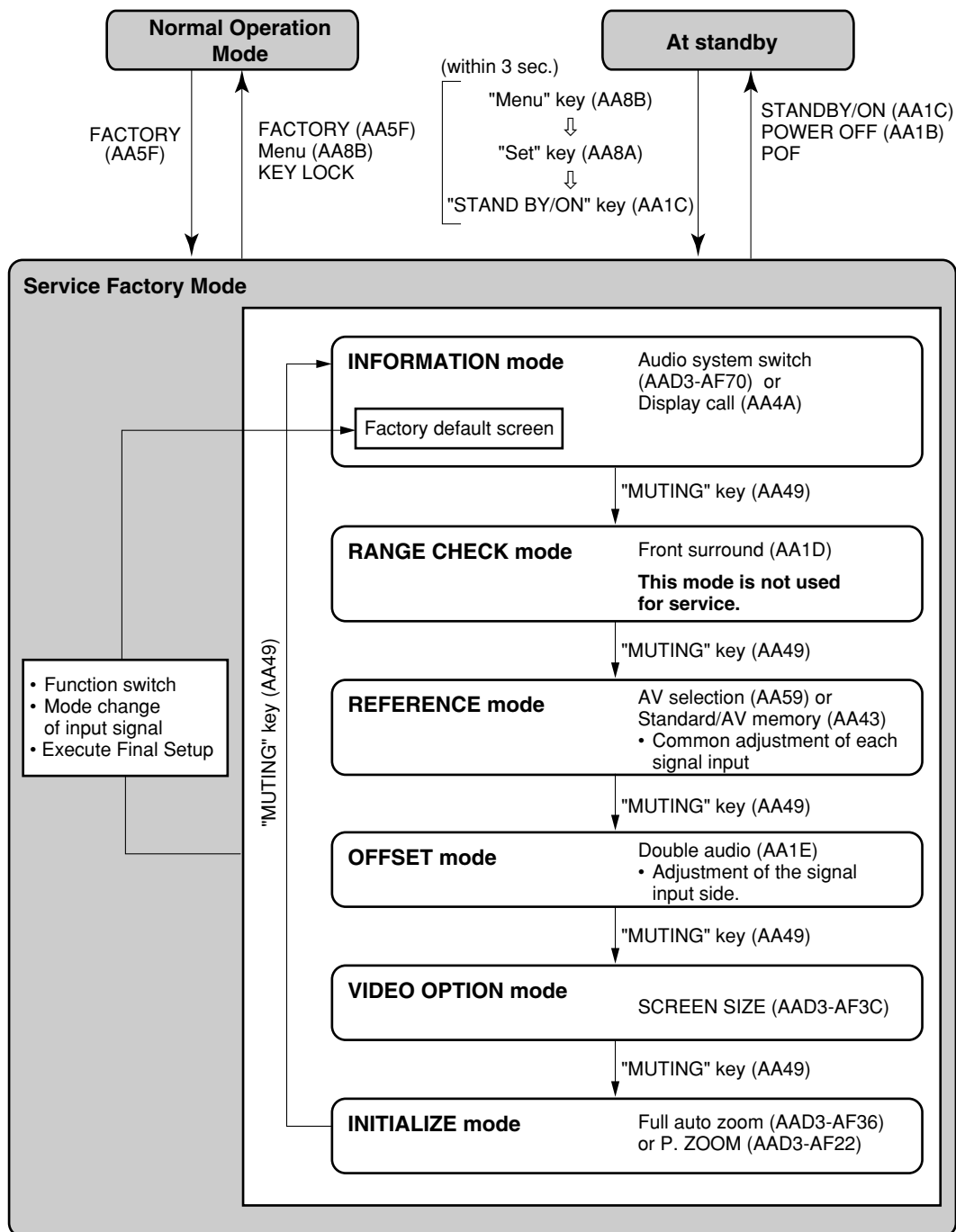
Diagnosis

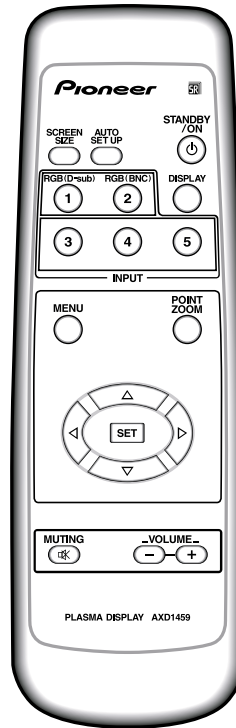
ADJUSTMENT

SERVICE FACTORY MODE

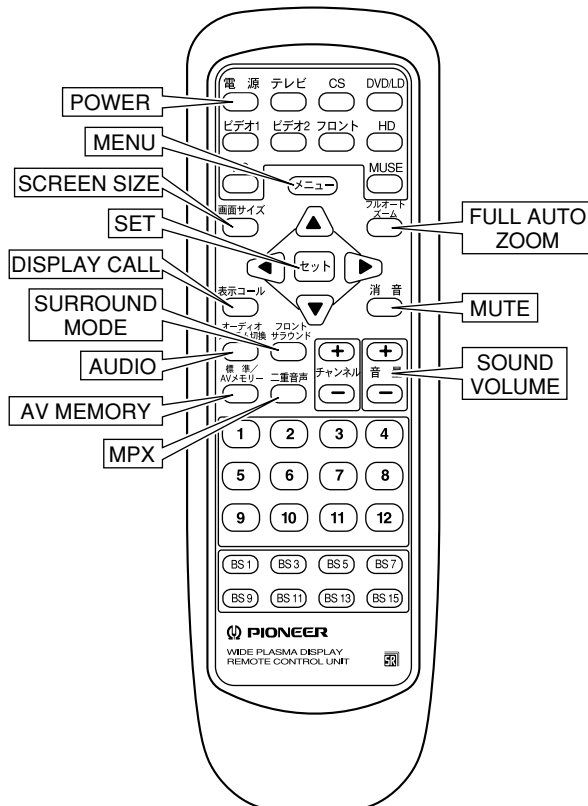
Perform the operations of Service Factory mode using the Remote Control Unit provided with the Plasma Display (AXD1459).

State Transition Diagram

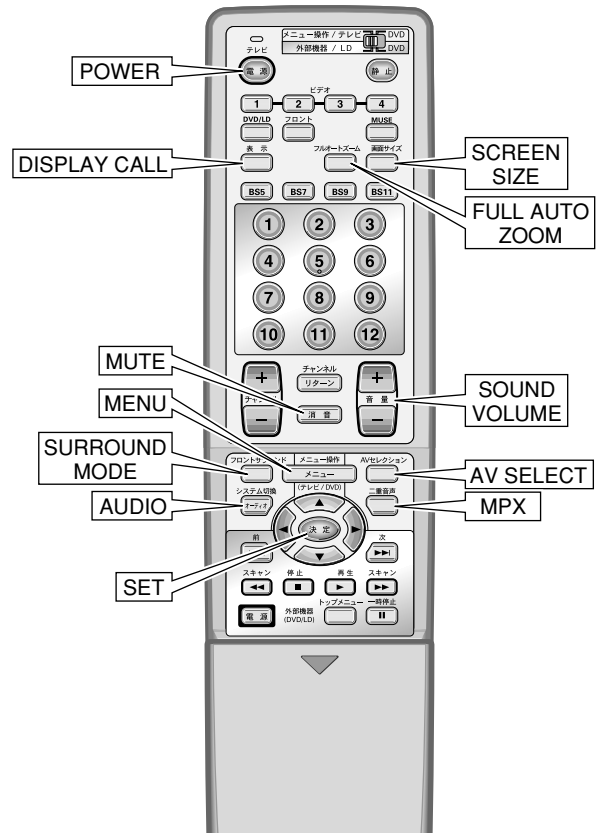




• AXD1459
(PDP-503CMX)



• AXD1432
(PDP-501HD)



• AXD1673
(PDP-502HD)

■ Caution of Operation of the Remote Control Unit

- In the service factory mode, use the key which does not exist in a remote control unit (AXD1459) attached to this product as the direct selection key of item when selects each item. These keys can use with the attached remote control units (AXD1432 and AXD1673) in the PDP-501HD and PDP-502HD.
- When operate the service factory mode with the attached remote control unit in this product, selection is possible with the following key cyclically.
 - Large item selection: MUTE key
 - Selection except large item: UP (▲), DOWN (▼) keys

■ Operation When Entered the Service Factory Mode

① Setting value of menu mode

- Reset "PICTURE" item (center value).
 - Notes : Adjustment value of "PICTURE" to reset is limited to the following face.
 - At VIDEO: Current signal mode of the selected input function
 - At PC: Correspond to the history of the signal mode input into past, "Table A to H".
- Reset all "SCREEN" items (center value).
 - Note: Adjustment value of "SCREEN" to reset is limited to the current signal mode of the selected input function.
 - Supplement: If execute FINAL SET UP or PICTURE DEFAULT, minimize the adjustment value of menu mode here so that it becomes the center value.
- "SET UP" and "OPTION" of menu mode are maintained except items as follows.
 - COLOR TEMP: It becomes "MIDDLE" setting
 - AUTO POWER OFF/POWER MANAGEMENT: Setting is maintained, but do not work

② Adjustment value of the integrator mode

- Adjustment values of "PICTURE" and "WHITE BAL" select the adjustment values which are applicable to the current input function signal mode.
 - Notes : Adjustment value of "PICTURE" and "WHITE BAL" to reset is limited to the following face.
 - At VIDEO: Current signal mode of the selected input function
 - At PC: Correspond to the history of the signal mode input into past, "Table A to H".
- SCREEN setting value is maintained.
- "SET UP" and "OPTION" of integrator menu are maintained except items as follows.
 - SIDE MASK LEVEL: Adjustment value is reset, and it becomes default value.
 - FULL MASK which was set with the integrator mode: Release
 - OFF TIMER: Release
- COLOR MODE (integrator menu) setting maintains setting in the integrator menu.

③ Others

- When input signal mode changed, change setting, and display default screen (INFORMATION-VERSION) of the service factory mode. Maintain the service factory mode.
 - Note: At a point in time when the input signal mode changed, perform an operation of ① and ②.
- Switch it in selected FUNCTION when switched FUNCTION. Then display default screen (INFORMATION-VERSION) of the service factory mode, and maintain the service factory mode.
 - Note: At the point that switched FUNCTION, perform an operation of ① and ②.
- Perform COLOR DETECT setting with "COLOR SYSTEM" of set menu mode.
- Only address 0100-01FF of module microcomputer / EEPROM copy/updates the data to the module microcomputer area of main microcomputer EEPROM.
- Various protection feature of the panel (Still picture detection, Block brightness detection and SCAN IC protection feature) turns OFF.
 - Notes: When each protection feature turns OFF once and released the factory mode, maintain it. Protection feature turns ON by turning ON from POWER OFF. Therefore turn ON from POWER OFF by all means in order to operate protection feature when released the factory mode.
- In the no input, apply playback and non-correspondence PC signal input, accepts only the setting item that does not depend on a signal mode. (But refer to the item "MASK1 and MASK2" about MASK setting.)
 - An item depending on the signal mode turns the display color to gray and it cannot change the setting.

Adjustment Items Table of Service Factory

SLOT

| | Name | OSD Display Name | RS-232C Command | Service Factory Operation | Adjustment Range (OFFSET Reference Value) |
|-----|-----------|------------------|-----------------|---------------------------|--|
| CD | YDL | Y-DELAY | YDL | REF/OFS-SLOT-1 | 0 to 15 [8] |
| | YOUTLEV | Y-OUT LEVEL | YOL | REF/OFS-SLOT-2 | 0 to 63 [32] |
| | TINT | CD TINT | CTI | REF/OFS-SLOT-3 | 0 to 63 [32] |
| | CrOFFSET | CDR OFFSET | CDR | REF/OFS-SLOT-4 | 0 to 15 [8] |
| | CbOFFSET | CDB OFFSET | CDB | REF/OFS-SLOT-5 | 0 to 15 [8] |
| EXP | R-Y_LEVEL | R-Y LEVEL | LRY | REF/OFS-SLOT-6 | 0 to 255 [128] |
| | B-Y_LEVEL | B-Y LEVEL | LBY | REF/OFS-SLOT-7 | 0 to 255 [128] |

RGB1

| | Name | OSD Display Name | RS-232C Command | Service Factory Operation | Adjustment Range (OFFSET Reference Value) |
|--------|--------------|------------------|-----------------|---------------------------|--|
| MATRIX | PICTURE | MAT CONT | MCT | REF/OFS-RGB1-1 | 0 to 63 [32] |
| | BRIGHT | MAT BRIGHT | MBR | REF/OFS-RGB1-2 | 0 to 63 [32] |
| | COLOR | MAT COLOR | MCL | REF/OFS-RGB1-3 | 0 to 63 [32] |
| | HUE | MAT TINT | MTI | REF/OFS-RGB1-4 | 0 to 63 [32] |
| AD | MAINCONTRAST | AD MAIN CONT | MCA | REF/OFS-RGB1-5 | 0 to 255 [128] |
| | SUBRCONTRAST | AD R HIGH | GHA | REF/OFS-RGB1-6 | 0 to 255 [128] |
| | SUBGCONTRAST | AD G HIGH | BHA | REF/OFS-RGB1-7 | 0 to 255 [128] |
| | SUBBCONTRAST | AD B HIGH | RHA | REF/OFS-RGB1-8 | 0 to 255 [128] |
| | BRIGHTR | AD R LOW | GLA | REF/OFS-RGB1-9 | 0 to 255 [128] |
| | BRIGHTG | AD G LOW | BLA | REF/OFS-RGB1-10 | 0 to 255 [128] |
| | BRIGHTB | AD B LOW | RLA | REF/OFS-RGB1-11 | 0 to 255 [128] |

RGB2

| | Name | OSD Display Name | RS-232C Command | Service Factory Operation | Adjustment Range (OFFSET Reference Value) |
|--------------|-----------|------------------|-----------------|---------------------------|--|
| IC102 W/B | COLOR | COLOR | COL | REF/OFS-RGB2-1 | 0 to 255 [128] |
| | TINT | TINT | TNT | REF/OFS-RGB2-2 | 0 to 255 [128] |
| IC30 W/B | MCONTRAST | CONTRAST | CNT | REF/OFS-RGB2-3 | 0 to 255 [128] |
| | MBRIGHT | BRIGHT | BRT | REF/OFS-RGB2-4 | 0 to 255 [128] |
| | R HIGH | R. HIGH | RHI | REF/OFS-RGB2-5 | 0 to 255 [255] |
| | G HIGH | G. HIGH | GHI | REF/OFS-RGB2-6 | 0 to 255 [255] |
| | B HIGH | B. HIGH | BHI | REF/OFS-RGB2-7 | 0 to 255 [255] |
| | R LOW | R. LOW | RLW | REF/OFS-RGB2-8 | 0 to 255 [128] |
| | G LOW | G. LOW | GLW | REF/OFS-RGB2-9 | 0 to 255 [128] |
| | B LOW | B. LOW | BLW | REF/OFS-RGB2-10 | 0 to 255 [128] |

DIGITAL

| | Name | OSD Display Name | RS-232C Command | Service Factory Operation | Adjustment Range (OFFSET Reference Value) |
|---------|--------------|------------------|-----------------|---------------------------|--|
| DIGITAL | PANEL R-HIGH | PANEL R-HIGH | PRH | REF/OFS-DIGITAL-1 | 0 to 255 [255] |
| | PANEL G-HIGH | PANEL G-HIGH | PGH | REF/OFS-DIGITAL-2 | 0 to 255 [255] |
| | PANEL B-HIGH | PANEL B-HIGH | PBH | REF/OFS-DIGITAL-3 | 0 to 255 [255] |
| | PANEL R-LOW | PANEL R-LOW | PRL | REF/OFS-DIGITAL-4 | 0 to 999 [512] |
| | PANEL G-LOW | PANEL G-LOW | PGL | REF/OFS-DIGITAL-5 | 0 to 999 [512] |
| | PANEL B-LOW | PANEL B-LOW | PBL | REF/OFS-DIGITAL-6 | 0 to 999 [512] |
| | ABL LEVEL | ABL LEVEL | ABL | REF/OFS-DIGITAL-7 | 0 to 255 [128] |
| | X-SUS-B | X-SUS-B | XSB | REF-DIGITAL-8 | 4 to 12 |
| | X-SUS-G | X-SUS-G | XSG | REF-DIGITAL-9 | 4 to 12 |
| | Y-SUS-B | Y-SUS-B | YSB | REF-DIGITAL-10 | 4 to 12 |
| | Y-SUS-G | Y-SUS-G | YSG | REF-DIGITAL-11 | 4 to 12 |
| | V-SUS | V-SUS | VSU | REF-DIGITAL-12 | 0 to 255 |
| | V-OFFSET | V-OFFSET | VOF | REF-DIGITAL-13 | 0 to 255 |

SIDE MASK LEVEL (VIDEO OPTION)

| | Name | OSD Display Name | RS-232C Command | Service Factory Operation | Adjustment Range (OFFSET Reference Value) |
|------|-----------------|------------------|-----------------|---------------------------|--|
| IC30 | R SIDE MASK LEV | R SIDE MASK LEV | RSL | VOP-M LEV-1 | 0 to 255 |
| | G SIDE MASK LEV | G SIDE MASK LEV | GSL | VOP-M LEV-2 | 0 to 255 |
| | B SIDE MASK LEV | B SIDE MASK LEV | BSL | VOP-M LEV-3 | 0 to 255 |

COLOR TEMP (VIDEO OPTION)

| | Name | OSD Display Name | RS-232C Command | Service Factory Operation | Adjustment Range (OFFSET Reference Value) |
|-------|-----------|------------------|-----------------|---------------------------|--|
| IC102 | COLOR | COLOR | | VOP-CT-3 | 0 to 255 [128] |
| | TINT | TINT | | VOP-CT-4 | 0 to 255 [128] |
| IC30 | MCONTRAST | CONTRAST | | VOP-CT-1 | 0 to 255 [128] |
| | MBRIGHT | BRIGHT | | VOP-CT-2 | 0 to 255 [128] |
| | R HIGH | R. HIGH | | VOP-CT-5 | 0 to 255 [255] |
| | G HIGH | G. HIGH | | VOP-CT-6 | 0 to 255 [255] |
| | B HIGH | B. HIGH | | VOP-CT-7 | 0 to 255 [255] |
| | R LOW | R. LOW | | VOP-CT-8 | 0 to 255 [128] |
| | G LOW | G. LOW | | VOP-CT-9 | 0 to 255 [128] |
| | B LOW | B. LOW | | VOP-CT-10 | 0 to 255 [128] |

COLOR MODE2 (VIDEO OPTION)

| | Name | OSD Display Name | RS-232C Command | Service Factory Operation | Adjustment Range (OFFSET Reference Value) |
|-------|-----------|------------------|-----------------|---------------------------|--|
| IC102 | COLOR | COLOR | | VOP-CM2-3 | 0 to 255 [128] |
| | TINT | TINT | | VOP-CM2-4 | 0 to 255 [128] |
| IC30 | MCONTRAST | CONTRAST | | VOP-CM2-1 | 0 to 255 [128] |
| | MBRIGHT | BRIGHT | | VOP-CM2-2 | 0 to 255 [128] |
| | R HIGH | R. HIGH | | VOP-CM2-5 | 0 to 255 [255] |
| | G HIGH | G. HIGH | | VOP-CM2-6 | 0 to 255 [255] |
| | B HIGH | B. HIGH | | VOP-CM2-7 | 0 to 255 [255] |
| | R LOW | R. LOW | | VOP-CM2-8 | 0 to 255 [128] |
| | G LOW | G. LOW | | VOP-CM2-9 | 0 to 255 [128] |
| | B LOW | B. LOW | | VOP-CM2-10 | 0 to 255 [128] |

■ Calculation of Adjustment Value in the Service Factory Mode

- As for the adjustment value in the service factory mode, it becomes an actual adjustment value that subtracted OFFSET reference value (value in [] of the above table) from the value that added a REFERENCE adjustment value and an OFFSET adjustment value.
Notes: It becomes the adjustment value the value that adjusted it with REFERENCE because there is not an OFFSET adjustment value as for R SIDE MASK LEV, G SIDE MASK LEV and B SIDE MASK LEV of item SIDE MASK LEVEL and X-SUS-B, X-SUS-G, Y-SUS-B, Y-SUS-G, V-SUS and V-OFFSET of item DIGITAL.
- As for COLOR MODE2 and COLOR TEMP, it becomes OFFSET value of each the value that subtracted OFFSET reference value (a value in [] of the above table) from a adjustment value of selected mode. It becomes a adjustment value of the last RGB 2 device (IC30 and IC102) the value that added this OFFSET value to each adjustment item of RGB 2.

■ Actual Calculation Example

- Each adjustment value of SLOT/ RGB 1/RGB2/DIGITAL
(REFERENCE value)
+
{ (OFFSET value) – [OFFSET reference value] } ... Calculation of a value to add as OFFSET
- COLOR MODE2 OFFSET value
{ (COLOR MODE2 adjustment value) - [OFFSET reference value] } ... Calculation of a value to add as OFFSET for COLOR MODE2
Note: Add it only in COLOR MODE2 selection.
- COLOR TEMP OFFSET value
{ (COLOR TEMP adjustment value) - [OFFSET reference value] } ... Calculation of a value to add as OFFSET for COLOR TEMP
Note: Add it only in COLOR TEMP 1,2,4 and 5 selection.

Perform the addition in the normal operation, menu mode and COLOR TEMP adjustment mode of the service factory mode (in item VIDEO OPTION), and add OFFSET value of selected setting.

COLOR TEMP OFFSET does not add it in order to work by COLOR TEMP 3 setting in the integrator mode and in the service factory mode except COLOR TEMP adjustment mode.

Display Description of Service Factory Menu

1. In Adjustment Item

| | | | | | | | | |
|----|---|----------|----|-------------------|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | OFS-SLOT | | #1-S1-IN4-04-2*NT | | | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | | Y-DELAY | | | | | | |
| 16 | | | | | | | | |

Display color : White

Half-tone : Blue (second row/15th row
for each 5 to 36 columns)

When there is not item which is applicable to the input signal mode, display the adjustment value with "_____" (_____), and perform the item indication color to gray.

- Second row / 6th to 16th columns : Display the upper layer of selection item ••• At the Service factory mode
- Second row / 6th to 7th columns : Display the ID No. ••• At the RS-232C factory mode
- Second row / 9th to 16th columns : Display the upper layer of selection item ••• At the RS-232C factory mode
- Second row / 19th to 20th columns : Current color mode setting
- Second row / 22th to 23th columns : Current slot type

| Slot Type or Model Type | At PDA-5002 is mounted with | PDP-503PRO and PRO-1000HD | Outside Product Slot | No SLOT |
|-------------------------|-----------------------------|---------------------------|----------------------|---------|
| Display | S1 | US | T1 to T8 | NO |

- Second row / 25th to 27th columns : Current function
 - Second row / 29th to 32th columns : Current signal mode
 - Second row / 32th columns : Current Screen size (Refer to the "classification of input signal" with regard to each numeric value.)
- Current signal mode displays the signal mode of any of mode 03, mode 31, mode E1, mode 61 or mode 71.

| Setting | Signal Mode Display |
|---------|---------------------|
| VIDEO | 03 |
| VGA | 31 |
| WVGA | E1 |
| XGA | 61 |
| WXGA | 71 |

Current signal mode displays the signal mode of any of mode 12 or mode 13.

| HDTV Mode Setting (Integrator Menu) | Signal Mode Display |
|-------------------------------------|---------------------|
| 1080i | 12 |
| 1035i | 13 |

Display in the no signal and non-correspondence signal

| Signal Mode Display | Signal Definition |
|---------------------|--|
| FB | OUT OF RANGE (The signal that the measurement is impossible with the main microcomputer) |
| FC | OUT OF RANGE (In the video system signal when video signal does not input) |
| FD | OUT OF RANGE (In the non-correspondence signal at DVI input) |
| FE | OUT OF RANGE (When the measurement is possible with the main microcomputer, and non-correspondence signal that is not applicable to FC and FD) |
| FF | No signal |

- Second row / 33th column : Current input form

| Input Form | Component | Video-RGB | Composite | Y/C |
|------------|-----------|-----------|-----------|-----|
| Display | # | @ | * | / |

Non-display excepting above form (blank).

- Second row / 34th to 35th columns : Current color system

| Color System | NTSC | PAL | SECAM | 4.43NTSC | PAL-M | PAL-N | BLACK/WHITE |
|--------------|------|-----|-------|----------|-------|-------|-------------|
| Display | NT | PL | SC | 4N | PM | PN | BW |

Non-display it (blank) when a case except COLOR SYSTEM mentioned above and COLOR SYSTEM setting is fixed.

- 15th row / 6th to 24th columns : Current item selection

- 15th row / 26th to 35th columns :

RANGE CHECK selection : Current selecting value

- At REFERENCE selection : Adjustment value
- At OFFSET selection : OFFSET value (adjustment value) * Adjustment value is REFERENCE value + OFFSET value.
- At VIDEO OPTION selection : No display
- At INITIALIZE selection : The setting that is selected. (There is no display in the item which there is the lower layer.)

2. INFORMATION

| | | | | | | | | |
|----|---|---------------|---------|----|----|-----------------------------------|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | I N F O | | | | # 1 - S 1 - I N 4 - 0 2 - 2 * N T | | |
| 5 | | V E R S I O N | | | | | | |
| | | M A I N | U C O M | : | * | * | * | |
| | | W I D E | U C O M | : | * | * | * | |
| | | W I D E | F R O M | : | * | * | * | |
| 10 | | M O D U | U C O M | : | * | * | * | |
| | | P A N E | U C O M | : | * | * | * | |
| | | P A N E | F R O M | : | * | * | * | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |

• Basic Operation

- Display the state of each item

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|---|------------------------------|---|-------------|
| AA01 | 1 | VERSION | Display the each information | Main, Wide, module and panel microcomputer : Ver | × |
| AA02 | 2 | PD INFO | | Wide flash (OSD) / Panel flash (Sequence) : Ver | × |
| AA03 | 3 | NG INFO | | Past eight times / Place (1st, 2nd) / Time Stamp | × |
| AA04 | 4 | TEMPERATURE | | AUDIO/FAN/MODULE/PANEL/WIDE/MAIN IIC/MODULE IIC/DEW | × |
| AA05 | 5 | MEMO | | 1/2/3/FAN output | × |
| AA06 | 6 | | | Display MEMO | × |
| AA07 | 7 | | | | |
| AA08 | 8 | | | | |
| AA09 | 9 | | | | |
| AA00 | 10 | | | | |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | | | | |
| AA95 | « | | | | |
| AA8A | SET | | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | RANGE CHECK | | |

• Operating specification

- Start from VERSION (Key1) when shifted to this setting screen.
 - When each key was pressed, follow the required operation.
- Note : Perform VERSION display as the default screen of the service factory mode.

3. OSD Display in INFORMATION

① VERSION

| | | | | | | | | | |
|----|---|---|----|----|----|----|----|----|----|
| 1 | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | | I | N | F | O | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 5 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 10 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |

② PD INFO.

| | | | | | | | | | |
|----|---|---|----|----|----|----|----|----|----|
| 1 | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | | I | N | F | O | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 5 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 10 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |

Display the power down point (1st or 1st, 2nd) and an hour meter of the time.

Perform display to maximum eight times, and if display became more than eight times, perform clear in order from the old information, and update it to the latest information.

Display details at PD INFORMATION

| | Display | PD Point | | Display | PD Point |
|---|---------|-------------------|---|---------|---------------------------|
| 1 | X-DRV | X-DRIVE | 5 | ADRES | ADDRESS junction |
| 2 | X-DDC | X-DC/DC CONVERTER | 6 | ADR-K | ADDRESS resonance |
| 3 | Y-DRV | Y-DRIVE | 7 | POWER | Power supply |
| 4 | Y-DDC | Y-DC/DC CONVERTER | 8 | DC-DC | DC/DC CONVERTER (DIGITAL) |

③ NG INFO.

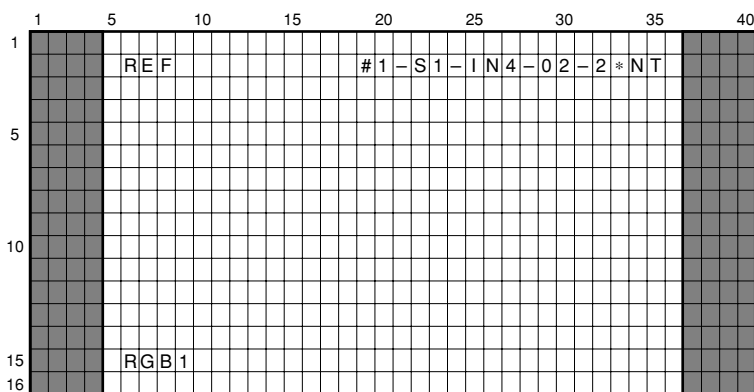
| | | | | | | | | | |
|----|---|---|----|----|----|----|----|----|----|
| 1 | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | | I | N | F | O | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 5 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 10 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |

- Each display is the value of A/D input or D/A output of the microcomputer (0 to 255).
- Temperature sensor 1, 2 and 3
- FAN

⑤ MEMO

106

4. REFERENCE



Display color : White
 Halftone : Blue (Second row / 15th row
 for each 5th to 36th columns)

●Basic Operation

- Select the adjustment table.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|-----------|----------------|---|-----------------------------|---------|-------------|
| AA01 | 1 | RGB1 | Select the adjustment table | | ○ |
| AA02 | 2 | RGB2 | | | ○ |
| AA03 | 3 | DIGITAL | | | ○ |
| AA04 | 4 | SLOT | | | ○ |
| AA05 | 5 | | | | |
| AA06 | 6 | | | | |
| AA07 | 7 | | | | |
| AA08 | 8 | | | | |
| AA09 | 9 | | | | |
| AA00 | 10 | | | | |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select the upper item | | | |
| AA97 | ▼ | Select the lower item | | | |
| AA94 | » | | | | |
| AA95 | « | | | | |
| AA8A | SET | Select the item and shift to lower layer | | | |
| AAD3-AF70 | AUDIO | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA4A | DISPLAY CALL | | RANGE CHECK | | |
| AA1D | SURROUND MODE | | REFERENCE | | |
| AA59 | AV SELECT | | OFFSET | | |
| AA43 | AV MEMORY | | VIDEO OPTION | | |
| AA1E | MPX | | INITIALIZE | | |
| AAD3-AF3C | SCREEN SIZE | | | | |
| AAD3-AF36 | FULL AUTO ZOOM | Shift to next adjustment /setting screen | OFFSET | | |
| AAD3-AF22 | P.ZOOM | | | | |
| AA49 | MUTING | | | | |

●Operating specification

- Start from RGB 1 (Key 1) when shifted to this setting screen.
However, the movement original item to be selected when shifted from the lower layer.
- When each key was pressed, follow the required operation.
- In INPUT5 (DVI) selection, impossible "RGB1" and "SLOT" selections (do not perform the display skip).
- When SLOT is not inserted and the external SLOT is inserted, selection of "SLOT" is impossible (do not perform the display skip).
- When selection of the item is impossible, turn the OSD display color into gray.

① REFERENCE — RGB1

| | | | | | | | | |
|----|---|------------|----|---------------------------------|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | REF - RGB1 | | #1 - S1 - I N 4 - 0 2 - 2 * N T | | | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | MAT CONT | | : | * | * | * | |

Display color : White
 Half tone : Blue (second row / 15th row for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remark | Lower Layer |
|------------------------|--------------------------|--|---|--------|-------------|
| AA01 | 1 | MAT CONT | Call the adjustment value and display it. | | × |
| AA02 | 2 | MAT BRIGHT | | | × |
| AA03 | 3 | MAT COLOR | | | × |
| AA04 | 4 | MAT TINT | | | × |
| AA05 | 5 | AD MAIN CONT | | | × |
| AA06 | 6 | AD R HIGH | | | × |
| AA07 | 7 | AD G HIGH | | | × |
| AA08 | 8 | AD B HIGH | | | × |
| AA09 | 9 | AD R LOW | | | × |
| AA00 | 10 | AD G LOW | | | × |
| AA46 | 11 | AD B LOW | | | × |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | « | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | OFFSET | | |

●Operating specification

- Start from MAT CONT (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.
- When there is not the item which is applicable to an input signal mode, display the adjustment value to "———", and turn the item display color into gray.

② REFERENCE — RGB2

| | | | | | | | | |
|----|---|------------|----|---------------------------------|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | REF - RGB2 | | #1 - S1 - I N 4 - 0 2 - 2 * N T | | | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | | CONTRAST | | : | * | * | * | |
| 16 | | | | | | | | |

Display color : White
Half tone : Blue (second row / 15th row for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|--|---|---------|-------------|
| AA01 | 1 | CONTRAST | Call the adjustment value and display it. | | × |
| AA02 | 2 | BRIGHT | | | × |
| AA03 | 3 | COLOR | | | × |
| AA04 | 4 | TINT | | | × |
| AA05 | 5 | R HIGH | | | × |
| AA06 | 6 | G HIGH | | | × |
| AA07 | 7 | B HIGH | | | × |
| AA08 | 8 | R LOW | | | × |
| AA09 | 9 | G LOW | | | × |
| AA00 | 10 | B LOW | | | × |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | « | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 | AUDIO | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA4A | DISPLAY CALL | | | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 | AV SELECT | | REFERENCE | | |
| AA43 | AV MEMORY | | OFFSET | | |
| AA1E | MPX | | VIDEO OPTION | | |
| AAD3-AF3C | SCREEN SIZE | | INITIALIZE | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | OFFSET | | |

●Operating specification

- Start from CONTRAST (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.
- When there is not the item which is applicable to an input signal mode, display the adjustment value to "____", and turn the item display color into gray.

③ REFERENCE — DIGITAL

| | | | | | | | | |
|----|---|--------------|----|-------------------|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | REF-DIG | | #1-S1-IN4-02-2*NT | | | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | | PANEL R-HIGH | | : | * | * | * | |
| 16 | | | | | | | | |

Display color : White
 Half tone : Blue (second row / 15th row for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|--|---|---------|-------------|
| AA01 | 1 | PANEL R-HIGH | Call the adjustment value and display it. | | × |
| AA02 | 2 | PANEL G-HIGH | | | × |
| AA03 | 3 | PANEL B-HIGH | | | × |
| AA04 | 4 | PANEL R-LOW | | | × |
| AA05 | 5 | PANEL G-LOW | | | × |
| AA06 | 6 | PANEL B-LOW | | | × |
| AA07 | 7 | ABL LEVEL | | | × |
| AA08 | 8 | X-SUS-B | | | × |
| AA09 | 9 | X-SUS-G | | | × |
| AA00 | 10 | Y-SUS-B | | | × |
| AA46 | 11 | Y-SUS-G | | | × |
| AA47 | 12 | V-SUS | | | × |
| AA4D | BS1 | V-OFFSET | | | × |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | « | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | OFFSET | | |

●Operating specification

- Start from PANEL R-HIGH (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.
- When there is not the item which is applicable to an input signal mode, display the adjustment value to "_____", and turn the item display color into gray.

④ REFERENCE — SLOT (At Connected SLOT ST1) • This mode is effective for SLOT ST1 only in connection

| | | | | | | | | |
|----|---|----------|----|-------------------|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | REF-SLOT | | #1-S1-IN4-02-2*NT | | | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | | Y-DELAY | | : | * | * | * | |
| 16 | | | | | | | | |

Display color : White
Half tone : Blue (second row / 15th row for each 5 to 36th columns)

•Basic Operation

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|--|---|---------|-------------|
| AA01 | 1 | Y-DELAY | Call the adjustment value and display it. | | × |
| AA02 | 2 | Y-OUT LEVEL | | | × |
| AA03 | 3 | CD TINT | | | × |
| AA04 | 4 | CDR OFFSET | | | × |
| AA05 | 5 | CDB OFFSET | | | × |
| AA06 | 6 | R-Y LEVEL | | | × |
| AA07 | 7 | B-Y LEVEL | | | × |
| AA08 | 8 | | | | |
| AA09 | 9 | | | | |
| AA00 | 10 | | | | |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | « | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 | AUDIO | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA4A | DISPLAY CALL | | | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 | AV SELECT | | REFERENCE | | |
| AA43 | AV MEMORY | | OFFSET | | |
| AA1E | MPX | | VIDEO OPTION | | |
| AAD3-AF3C | SCREEN SIZE | | INITIALIZE | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | OFFSET | | |

•Operating specification

- Start from Y-DELAY (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.
- When there is not the item which is applicable to an input signal mode, display the adjustment value to "_____", and turn the item display color into gray.

5. OFFSET

| | | | | | | | | |
|----|------|----|----|----|-------------------|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | OFS | | | | #1-S1-IN4-02-2*NT | | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | RGB1 | | | | | | | |
| 16 | | | | | | | | |

Display color : White
Half tone : Blue (second row / 15th row for each 5 to 36th columns)

•Basic Operation

Select the adjustment table

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|---|-----------------------------|---------|-------------|
| AA01 | 1 | RGB1 | Select the adjustment table | | ○ |
| AA02 | 2 | RGB2 | | | ○ |
| AA03 | 3 | DIGITAL | | | ○ |
| AA04 | 4 | SLOT | | | ○ |
| AA05 | 5 | | | | |
| AA06 | 6 | | | | |
| AA07 | 7 | | | | |
| AA08 | 8 | | | | |
| AA09 | 9 | | | | |
| AA00 | 10 | | | | |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select the upper item | | | |
| AA97 | ▼ | Select the lower item | | | |
| AA94 | » | | | | |
| AA95 | « | | | | |
| AA8A | SET | Select the item and shift to lower layer | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | VIDEO OPTION | | |

•Operating specification

- Start from RGB 1 (Key 1) when shifted to this setting screen. However, the movement original item to be selected when shifted from the lower layer.
- When each key was pressed, follow the required operation.
- In INPUT5 (DVI) selection, impossible "RGB1" and "SLOT" selections (do not perform the display skip).
- When SLOT is not inserted and the external SLOT is inserted, selection of "SLOT" is impossible (do not perform the display skip).
- When selection of the item is impossible, turn the OSD display color into gray.
- Selection of each item is impossible at no input signal.

① OFFSET — RGB1

| | | | | | | | | | |
|----|---|-----|-----------|----|-------------------|----|----|----|----|
| | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | | OFS- RGB1 | | #1-S1-IN4-02-2*NT | | | | |
| 5 | | | | | | | | | |
| 10 | | | | | | | | | |
| 15 | | MAT | CONT | | : | * | * | * | * |
| 16 | | | | | (| * | * | * |) |

Display color : White
Half tone : Blue (second row / 15th row for each 5 to 36th columns)

- **Basic Operation**

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|--|---|---------|-------------|
| AA01 | 1 | MAT CONT | Call the adjustment value and display it. | | × |
| AA02 | 2 | MAT BRIGHT | | | × |
| AA03 | 3 | MAT COLOR | | | × |
| AA04 | 4 | MAT TINT | | | × |
| AA05 | 5 | AD MAIN CONT | | | × |
| AA06 | 6 | AD R HIGH | | | × |
| AA07 | 7 | AD G HIGH | | | × |
| AA08 | 8 | AD B HIGH | | | × |
| AA09 | 9 | AD R LOW | | | × |
| AA00 | 10 | AD G LOW | | | × |
| AA46 | 11 | AD B LOW | | | × |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | ≫ | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | ≪ | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | VIDEO OPTION | | |

- **Operating specification**

- Start from MAT CONT (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.
- When there is not the item which is applicable to an input signal mode, display the adjustment value to "—— (——)", and turn the item display color into gray.

② OFFSET — RGB2

| | | | | | | | | |
|----|---|----|----|----|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | | | | | | | |
| | | | | | | | | |
| 5 | | | | | | | | |
| | | | | | | | | |
| 10 | | | | | | | | |
| | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |

Display color : White
 Half tone : Blue (second row / 15th row for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|--|---|---------|-------------|
| AA01 | 1 | CONTRAST | Call the adjustment value and display it. | | × |
| AA02 | 2 | BRIGHT | | | × |
| AA03 | 3 | COLOR | | | × |
| AA04 | 4 | TINT | | | × |
| AA05 | 5 | R HIGH | | | × |
| AA06 | 6 | G HIGH | | | × |
| AA07 | 7 | B HIGH | | | × |
| AA08 | 8 | R LOW | | | × |
| AA09 | 9 | G LOW | | | × |
| AA00 | 10 | B LOW | | | × |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | « | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | VIDEO OPTION | | |

●Operating specification

- Start from CONTRAST (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.
- When there is not the item which is applicable to an input signal mode, display the adjustment value to "—— (——)", and turn the item display color into gray.

③ OFFSET — DIGITAL

| | | | | | | | | |
|----|---|--------------|----|-------------------|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | OFS-DIG | | #1-S1-IN4-02-2*NT | | | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | | PANEL R-HIGH | | :***(* **) | | | | |
| 16 | | | | | | | | |

Display color : White

Half tone : Blue (second row / 15th row for
each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|-----------|----------------|--|---|--|-------------|
| AA01 | 1 | PANEL R-HIGH | Call the adjustment value and display it. | | × |
| AA02 | 2 | PANEL G-HIGH | | | × |
| AA03 | 3 | PANEL B-HIGH | | | × |
| AA04 | 4 | PANEL R-LOW | | | × |
| AA05 | 5 | PANEL G-LOW | | | × |
| AA06 | 6 | PANEL B-LOW | | | × |
| AA07 | 7 | ABL LEVEL | | | × |
| AA08 | 8 | X-SUS-B | - | Selection is possible, and setting is impossible | × |
| AA09 | 9 | X-SUS-G | | | × |
| AA00 | 10 | Y-SUS-B | | | × |
| AA46 | 11 | Y-SUS-G | | | × |
| AA47 | 12 | V-SUS | | | × |
| AA4D | BS1 | V-OFFSET | | | × |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | « | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 | AUDIO | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA4A | DISPLAY CALL | | | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 | AV SELECT | | REFERENCE | | |
| AA43 | AV MEMORY | | OFFSET | | |
| AA1E | MPX | | VIDEO OPTION | | |
| AAD3-AF3C | SCREEN SIZE | | INITIALIZE | | |
| AAD3-AF36 | FULL AUTO ZOOM | Shift to next adjustment / setting screen. | | | |
| AAD3-AF22 | P.ZOOM | | | | |
| AA49 | MUTING | | VIDEO OPTION | | |

●Operating specification

- Start from PANEL R-HIGH (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.
- When there is not the item which is applicable to an input signal mode, display the adjustment value to "—— (——)", and turn the item display color into gray.
- Because there is not the item which is applicable to an OFFSET item as for X-SUS-B, X-SUS-G, Y-SUS-B, Y-SUS-G, V-SUS and V-OFFSET, selection is impossible. Always turn the OSD display color into gray, and display the adjustment value to "—— (——)".

④ OFFSET — SLOT (At Connected SLOT ST1)

• This mode is effective for SLOT ST1 only in connection

| | | | | | | | | |
|----|---------|------|----|----|----|----|----|---------|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | OFS | SLOT | #1 | S1 | I | N | 4 | 02-2*NT |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | Y-DELAY | | | | | | | |
| 16 | | | | | | | | |

Display color : White

Half tone : Blue (second row / 15th row for each 5 to 36th columns)

●Basic Operation

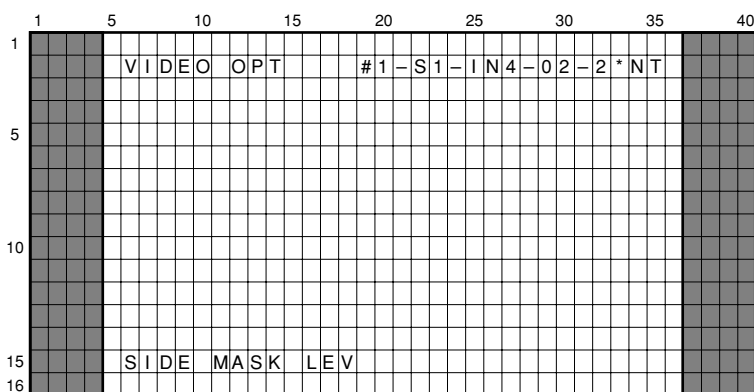
Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|-----------|----------------|--|---|---------|-------------|
| AA01 | 1 | Y-DELAY | Call the adjustment value and display it. | | × |
| AA02 | 2 | Y-OUT LEVEL | | | × |
| AA03 | 3 | CD TINT | | | × |
| AA04 | 4 | CDR OFFSET | | | × |
| AA05 | 5 | CDB OFFSET | | | × |
| AA06 | 6 | R-Y LEVEL | | | × |
| AA07 | 7 | B-Y LEVEL | | | × |
| AA08 | 8 | | | | |
| AA09 | 9 | | | | |
| AA00 | 10 | | | | |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | « | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 | AUDIO | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA4A | DISPLAY CALL | | | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 | AV SELECT | | REFERENCE | | |
| AA43 | AV MEMORY | | OFFSET | | |
| AA1E | MPX | | VIDEO OPTION | | |
| AAD3-AF3C | SCREEN SIZE | | INITIALIZE | | |
| AAD3-AF36 | FULL AUTO ZOOM | | | | |
| AAD3-AF22 | P.ZOOM | | | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | VIDEO OPTION | | |

●Operating specification

- Start from Y-DELAY (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.
- When there is not the item which is applicable to an input signal mode, display the adjustment value to "——— (———)", and turn the item display color into gray.

6. VIDEO OPTION



Display color : White
Half tone : Blue (second row / 15th row for
each 5 to 36th columns)

- **Basic Operation**

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|---|----------------------------|--|-------------|
| AA01 | 1 | SIDE MASK LEV | Select the adjustment item | Shift to adjustment screen of SIDE MASK LEVEL at SET (AA8A). | ○ |
| AA02 | 2 | C MODE2 | | Shift to adjustment screen of COLOR MODE2 at SET (AA8A). | ○ |
| AA03 | 3 | C TEMP LOW | | Shift to adjustment screen of COLOR TEMP LOW at SET (AA8A). | ○ |
| AA04 | 4 | C TEMP MID LOW | | Shift to adjustment screen of COLOR TEMP MID LOW at SET (AA8A). | ○ |
| AA05 | 5 | C TEMP MID HIGH | | Shift to adjustment screen of COLOR TEMP MID HIGH at SET (AA8A). | ○ |
| AA06 | 6 | C TEMP HIGH | | Shift to adjustment screen of COLOR TEMP HIGH at +SET (AA8A). | ○ |
| AA07 | 7 | | | | |
| AA08 | 8 | | | | |
| AA09 | 9 | | | | |
| AA00 | 10 | | | | |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | | | | |
| AA95 | « | | | | |
| AA8A | SET | Select the item and shift to adjustment screen. | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | INITIALIZE | | |

•Operating specification

- Start from SIDE MASK LEVEL (Key 1) when shifted to this setting screen.
However, the movement original item to be selected when shifted from the lower layer.
- When each key was pressed, follow the required operation.
- When entered the service factory mode, COLOR MODE works by integrator setting.
However in the COLOR MODE2 adjustment, Work with COLOR MODE2 without relation in COLOR MODE setting of the integrator menu.
- COLOR TEMP Setting in the COLOR TEMP Adjustment
When entered the service factory mode without a relation in user setting, COLOR TEMP becomes "MIDDLE".
In the COLOR TEMP adjustment, switch the operation to setting of selected COLOR TEMP.

① SIDE MASK LEV. Adjustment

| | | | | | | | | |
|----|---|-------|------|------|---------|---------|-----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | VOP-S | MASK | | #1-S1-I | N4-02-2 | *NT | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | | R | SIDE | MASK | LEV | : | * | * |
| 16 | | | | | | | | |

Display color : White

Half tone : Blue (second row / 15th row for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|--|---|---------|-------------|
| AA01 | 1 | R SIDE MASK LEV | Call the adjustment value and display it. | | × |
| AA02 | 2 | G SIDE MASK LEV | | | × |
| AA03 | 3 | B SIDE MASK LEV | | | × |
| AA04 | 4 | | | | |
| AA05 | 5 | | | | |
| AA06 | 6 | | | | |
| AA07 | 7 | | | | |
| AA08 | 8 | | | | |
| AA09 | 9 | | | | |
| AA00 | 10 | | | | |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | « | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | INITIALIZE | | |

●Operating specification

- Start from R SIDE MASK LEVEL (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.

② COLOR MODE2 Adjustment

| | | | | | | | | |
|----|---|----------|-------|---------|---------|-----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | VOP-C | MODE2 | #1-S1-I | N4-02-2 | *NT | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | | CONTRAST | | | | | | |
| 16 | | | | | | | | |

COLOR MODE indication of second row/35th columns displays the default.
(It is not controlled with the COLOR MODE in adjustment.)

Display color : White
Half tone : Blue (second row / 15th row for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|--|---|---------|-------------|
| AA01 | 1 | CONTRAST | Call the adjustment value and display it. | | × |
| AA02 | 2 | BRIGHT | | | × |
| AA03 | 3 | COLOR | | | × |
| AA04 | 4 | TINT | | | × |
| AA05 | 5 | R HIGH | | | × |
| AA06 | 6 | G HIGH | | | × |
| AA07 | 7 | B HIGH | | | × |
| AA08 | 8 | R LOW | | | × |
| AA09 | 9 | G LOW | | | |
| AA00 | 10 | B LOW | | | |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | ≫ | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | ≪ | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | INITIALIZE | | |

●Operating specification

- Start from CONTRAST (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.
- It becomes COLOR MODE2 during COLOR MODE adjustment. However, do not perform the last memory of setting.
(Perform last memory of the adjustment value.)

③ COLOR TEMP Adjustment

[illegible]

Display color : White
Half tone : Blue (second row / 15th row for
each 5 to 36th columns)

- **Basic Operation**

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|--|---|---------|-------------|
| AA01 | 1 | CONTRAST | Call the adjustment value and display it. | | × |
| AA02 | 2 | BRIGHT | | | × |
| AA03 | 3 | COLOR | | | × |
| AA04 | 4 | TINT | | | × |
| AA05 | 5 | R HIGH | | | × |
| AA06 | 6 | G HIGH | | | × |
| AA07 | 7 | B HIGH | | | × |
| AA08 | 8 | R LOW | | | × |
| AA09 | 9 | G LOW | | | × |
| AA00 | 10 | B LOW | | | × |
| AA46 | 11 | | | | |
| AA47 | 12 | | | | |
| AA4D | BS1 | | | | |
| AA4E | BS3 | | | | |
| AA4F | BS5 | | | | |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | ≫ | Adjustment value of the parameter selecting goes up. | | | |
| AA95 | ≪ | Adjustment value of the parameter selecting goes down. | | | |
| AA8A | SET | Store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | INITIALIZE | | |

- **Operating specification**

- Start from CONTRAST (key 1) when shifted to this setting screen.
- When a key was pressed, follow the required operation after performing the last memory of current adjustment value.
- Works by the selected COLOR TEMP setting during COLOR TEMP adjustment. However, do not perform the last memory of setting and maintain the "MIDDLE". (Perform last memory of the adjustment value.)

7. INITIALIZE

| | | | | | | | | |
|----|---|----|----|----|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | | | | | | | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |

Display color : White
 Half tone : Blue (second row / 15th row for each 5 to 36th columns)

•Basic Operation

- Perform the modification and confirmation of various setting.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|---|--------------------------------|---------------------------------------|-------------|
| AA01 | 1 | COLOR DET | ...→EURO→SA→ALL→... | | × |
| AA02 | 2 | EED CHECK | EEPROM writing check | | × |
| AA03 | 3 | ACL SW | ON ↔ OFF | | × |
| AA04 | 4 | INTEGRATOR MODE | ...→LOCK→UNLOCK→... | | × |
| AA05 | 5 | P&P WRITE ENA | For Plug & Play EEPROM writing | | × |
| AA06 | 6 | HOURLMETER SET | Set the current hourmeter | Shift to setting screen at SET (AA8A) | ○ |
| AA07 | 7 | PULSEMETER SET | Set the pulse hourmeter | Shift to setting screen at SET (AA8A) | ○ |
| AA08 | 8 | FINAL SET UP | | Execute at SET (AA8A) | × |
| AA09 | 9 | VIDEO STANDARD | ...→0→1→2→3→4→5→6→7→8→9→A... | | × |
| AA00 | 10 | PC STANDARD | ...→0→1→2→3→4→5→6→7→8→9→A... | | × |
| AA46 | 11 | VIDEO MODE1 | ...→0→1→2→3→4→5→6→7→8→9→A... | | × |
| AA47 | 12 | PC MODE1 | ...→0→1→2→3→4→5→6→7→8→9→A... | | × |
| AA4D | BS1 | EED DATA READ | | Shift to setting screen at SET (AA8A) | ○ |
| AA4E | BS3 | MASK1 | | Shift to setting screen at SET (AA8A) | ○ |
| AA4F | BS5 | MASK2 | | Shift to setting screen at SET (AA8A) | ○ |
| AA50 | BS7 | MEMO | | Shift to writing screen at SET (AA8A) | ○ |
| AA51 | BS9 | SERVICE PARTS | | Execute at SET (AA8A) | × |
| AA52 | BS11 | PICTURE DEFAULT | | Execute at SET (AA8A) | × |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select upper item | | | |
| AA97 | ▼ | Select lower item | | | |
| AA94 | » | Select the function | | | |
| AA95 | « | Select the function | | | |
| AA8A | SET | Select the item and shift to lower layer, or store the adjustment value and shift to upper layer. | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | INFORMATION | | |

●Operating specification

- Start from COLOR DET (Key 1) when shifted to this setting screen.
However, the movement original item to be selected when shifted from the lower layer.
- When each key was pressed, follow the required operation.
- Perform the last memory of COLOR DET., ACL SW, INTE. MODE, MEMO, VIDEO STANDARD, PC STANDARD, VIDEO MODE1, PC MODE1, HOURMETER SET, PULSEMETER SET, FINAL SET UP, MASK1, MASK2 and PICTURE DEFAULT.

●Function description

1. COLOR DET. : Set the color detection system.

→ EURO → SA → ALL →

2. EEP CHECK: Check the EEPROM writing

Display lower two places with the hexadecimal number of the result that added data to subaddress 1760-177C (PDC XGA/SHARP data) of EEPROM.

3. ACL SW: Set the ACL.

4. INTEGRATOR MODE: Set the integrator protection.

5. P&P WRITE ENA: Set the writing permission of the EEPROM for Plug & Play.

6. HOURMETER SET: Display and set the hourmeter.

| | | | | | | | | |
|----|---|----|----|----|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 5 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 10 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |

Can change three places of upper rank of SETDATA.

▲▼ : Select numeric value.

◀▶ : Can select three places of upper rank.

SET : Shift to the setting modification and confirmation screen.

| | | | | | | | | |
|----|---|----|----|----|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 5 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 10 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |

◀▶ : YES/NO selection

SET : Store the SET DATA at YES selection and shift to INIT screen.
Hold the NOW DATA at NO selection and shift to INIT screen.

7. PULSEMETER SET: Display and set the pulse meter.

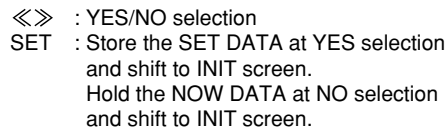
| | | | | | | | | |
|----|---|----|----|----|----|----|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 5 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 10 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |

Can change three places of upper rank of SETDATA.

▲▼ : Select numeric value.

◀▶ : Can select three places of upper rank.

SET : Shift to the setting modification and confirmation screen.

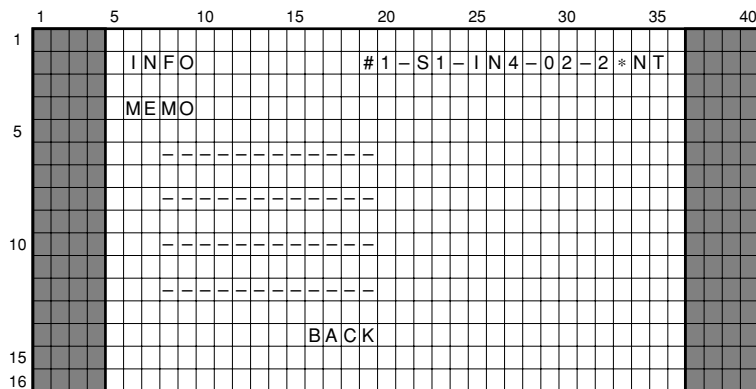


- | | | Current Input Signal | |
|-----------------------|---------------|----------------------|--------|
| | | VIDEO | PC |
| POWER CONTROL setting | STANDARD mode | Table1 | Table2 |
| | MODE1 | Table3 | Table4 |
| | MODE2 | PL6 (fixed) | |

- <<>> : Select the address (four places) place.
 ▲▼ : Select numeric value.
 SET : Shift to upper layer.
 Update display data (hex) every address modification.
- Display color : White (Selected address is yellow)
 Half tone : Blue (second row / 15th row for
 each 5 to 36th columns)

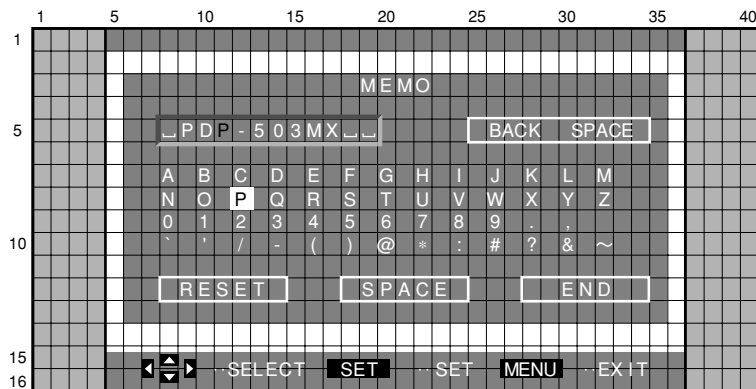
- When key operation is done and performs OSD display, turns OFF FULL MASK for two seconds and display OSD. (common to in all modes)
- In FULL MASK selection (in MASK selection menu), Select the mask and turn off OSD two seconds later of no operation, and MASK screen displays.
- Perform MASK determination (press "SET"), and FULL MASK screen display starts.
- Release of the mask is possible only with "M00" with the RS-232C factory adjustment mode or "MASK OFF" of the service factory menu. (Release is impossible with "FULL MASK OFF" of the integrator menu and "FMN" of the RS-232C command.)

16. MEMO: Display and edit the memo data.



<MEMO/SELECT>

- Select MEMO to edit with ▲▼ keys.
- Shift to the <MEMO/EDIT> screen with the SET key.
- When selects BACK and presses the SET key, shift to the upper layer.



<MEMO/EDIT>

- Editing technique refers to the step of INPUT label of the user menu.
- Default is "-----" display. (□ shows space.)
- When "RESET" was pressed, display returns to the default display setting.

17. SERVICE PARTS : Rewrite a PD number of the module microcomputer to the parts recognition number for service.

Refer to "7.1.3 AUTOMATIC BACKUP OF DIGITAL VIDEO ASSY DATA".

For service recognition number: Modify the first column of the PD number to F

Caution: Only the EEPROM for the module microcomputer to modify the service recognition number.

A service identification number of module microcomputer data area in EEPROM for main microcomputer does not rewrite it.

Examples: F691 (an original PD number is 5691).

18. PICTURE DEFAULT

- The data which adjusted in the service factory mode reflect as default value of PICTURE, WHITE BAL and SIDE MASK LEVEL of the integrator menu.
- The value that adjusted in the service factory mode is not reflected to all video output data except the service factory mode so long as does not execute "PICTURE DEFAULT" or "FINAL SETUP".
- Execute "PICTURE DEFAULT" after the adjustment for the value that adjusted in the service factory mode is reflected to video output data.

Note: When executed "PICTURE DEFAULT"

- ① All the PICTURE items of the user menu are reset.
- ② PICTURE, WHT BAL and SIDE MASK LEVEL of the integrator menu become default value all in base with the current factory adjustment value.

● FINAL SETUP Details

| Items | | Initial Setting | Remarks |
|---|-------|---------------------------------------|--|
| Key Remote control input | | | |
| Power supply (STANDBY/ON) | | | NO CARE |
| Input function | | INPUT1 | |
| Screen size | VIDEO | WIDE | (In the video signal input) Every each input function |
| | PC | ① DOT BY DOT | (In the PC signal input) Every each input function and signal mode Priority sequence is ① → ② → ③ |
| | | ② 4 : 3 (included TYPE) | |
| | | ③ FULL (included TYPE) | |
| Vertical position adjustment (V scroll) | | 0 | Every each input function (at VIDEO) |
| KEY LOCK | | UNLOCK | All input functions are common |
| VOLUME | | 0 | |
| User menu setting item | | | |
| PICTURE | | Default value of all adjustment | Every each input function and signal mode |
| SCREEN | | Default value of all adjustment | Every each input function and signal mode (at PC) |
| INPUT LABEL | | □INPUT*□ | (*: 1 to 5). Every each input function |
| AUTO POWER OFF | | OFF | Every each input function |
| POWER MANAGEMENT | | OFF | INPUT1 (at PC) /5 |
| COLOR TEMP | | MIDDLE | Every each input function (at VIDEO) |
| DIGITAL NR | | LOW | |
| HIGH CONTRAST | | OFF | |
| PURECINEMA | | OFF | Every each input function (at 525i (NTSC)) |
| COLOR SYSTEM | | AUTO | Every each INPUT3/4 |
| CLAMP POSITION | | AUTO | Every each INPUT1/2 |
| 3D Y/C MODE | | MOTION | INPUT 4 |
| SETTING | | VGA (at mode03, 31, E1) | Every INPUT 1/2 |
| | | XGA (at mode61, 71, 63, 73) | |
| VIDEO SIGNAL | | RGB | |
| POWER CONTROL | | STANDARD | (VIDEO/PC) All input functions are common |
| AUTO FUNCTION | | OFF | All input functions are common |
| AUDIO OUT | | FIXED | |
| Integrator menu setting item | | | |
| PICTURE | | Default value of all adjustment items | Every each input function and signal mode |
| WHITE BALANCE | | Default value of all adjustment items | |
| SCREEN | | Default value of all adjustment items | |
| 2×2 MODE | | OFF/Upper left | Every each input function |
| BRT. ENHANCE | VIDEO | OFF | |
| | PC | OFF | Every each function that the PC input is possible |
| HDTV MODE | | 1035i | All input functions are common |
| VIDEO INPUT | | COMPONENT1 | 750p/1125i/1125p |
| | | COMPONENT2 | 525i/525p/625i/625p |
| SUB VOLUME | | 60 | Every input function |
| OSD | | ON | Set is common |
| BAUD RATE | | 4800BPS | |
| TIMER | | OFF/1/0.0/WHT | (Setting/Timer time/Mask time/mask color) All input functions are common |

| Items | | Initial Setting | Remarks |
|-----------------------------|---------|-----------------|---------------|
| FULL MASK | | OFF | Set is common |
| SIDE MASK | R LEVEL | Default value | |
| | G LEVEL | Default value | |
| | B LEVEL | Default value | |
| MASK CONTROL | | ON | Set is common |
| ORBITER MODE | | OFF | |
| INVERSE MODE | | OFF | |
| COLOR MODE | | MODE1 | |
| MIRROR MODE | | OFF | Set is common |
| FAN CONTROL | | AUTO | |
| MONITOR NAME | | □□□PLASMA□□□ | |
| ID NO SET | | -- | |
| SLOT INPUT | | VIDEO (RGB) | |
| Factory Setting Item | | | |
| INTE MODE | | UNLOCK | Set is common |
| MASK1/2 setting | | OFF | |
| ACL SW | | ON | |
| COLOR DET | | | NO CARE |
| RS-232C Setting Item | | | |
| VIDEO MUTE | | OFF | Set is common |
| LED | | ON | |
| 100% display | | OFF | |

② MASK2

| | | | | | | | | | |
|----|---|---------|---------------------|----|-----------------------------------|----|-------------------|----|----|
| | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | | I N I T - M A S K 2 | | # 1 - S 1 - I N 4 - 0 2 - 2 * N T | | | | |
| 5 | | | | | | | | | |
| 10 | | | | | | | | | |
| 15 | | M A S K | | | | : | O F F (6 0 H z) | | |
| 16 | | | | | | | | | |

Display color : White
Half tone : Blue (second row / 15th row for
each 5 to 36th columns)

- **Basic Operation**

Perform the adjustment of each parameter.

| Rem Code | Key Name | Function & Display | Description | Remarks | Lower Layer |
|------------------------|--------------------------|--|-------------------|--|-------------|
| AA01 | 1 | MASK OFF | | OFF | × |
| AA02 | 2 | MASK 01 | | Pattern 1 (Ramp) | × |
| AA03 | 3 | MASK 02 | | Pattern 2 (Color-bar) | × |
| AA04 | 4 | MASK 03 | | Pattern 3 (Slanting line) | × |
| AA05 | 5 | MASK 04 | | Pattern 4 (For W/B Lo-Light adjustment 1/5Window (14%, 56%)) | × |
| AA06 | 6 | MASK 05 | | Pattern 5 (For W/B Lo-Light adjustment 1/5Window (Pred, Skin)) | × |
| AA07 | 7 | MASK 06 | | Pattern 6 (For W/B Peak adjustment 1/5Window (100%)) | × |
| AA08 | 8 | MASK 07 | | Pattern 7 (Peak signal : For peak measurement and adjustment 1/5Window (100%)) | × |
| AA09 | 9 | MASK 08 | | Pattern 8 (Reservation) | × |
| AA00 | 10 | MASK 09 | | Pattern 9 (For scan IC protection test Window-A) | × |
| AA46 | 11 | MASK 10 | | Pattern 10 (For scan IC protection test Window-B) | × |
| AA47 | 12 | MASK 11 | | Pattern 11 (Reservation) | × |
| AA4D | BS1 | MASK 12 | | Pattern 12 (Reservation) | × |
| AA4E | BS3 | MASK 13 | | Pattern 13 (Reservation) | × |
| AA4F | BS5 | MASK 14 | | Pattern 14 (Reservation) | × |
| AA50 | BS7 | | | | |
| AA51 | BS9 | | | | |
| AA52 | BS11 | | | | |
| AA53 | BS13 | | | | |
| AA54 | BS15 | | | | |
| AA96 | ▲ | Select the upper item | | | |
| AA97 | ▼ | Select the lower item | | | |
| AA94 | ≫ | Select free-running frequency | ↔→50Hz→60Hz→70Hz↔ | Default is 60 Hz | |
| AA95 | ≪ | Select free-running frequency | ↔→50Hz→60Hz→70Hz↔ | Default is 60 Hz | |
| AA8A | SET | Store the selected item and shift to upper layer | | | |
| AAD3-AF70 AA4A | AUDIO DISPLAY CALL | Shift to various adjustment / setting screen. | INFORMATION | | |
| AA1D | SURROUND MODE | | RANGE CHECK | | |
| AA59 AA43 | AV SELECT AV MEMORY | | REFERENCE | | |
| AA1E | MPX | | OFFSET | | |
| AAD3-AF3C | SCREEN SIZE | | VIDEO OPTION | | |
| AAD3-AF36 AAD3-AF22 | FULL AUTO ZOOM P.ZOOM | | INITIALIZE | | |
| AA49 | MUTING | Shift to next adjustment / setting screen. | INFORMATION | | |

- Operating specification

- Start from MASK OFF (Key1) when shifted to this setting screen. However, set MASK position is a default when sets an either mask already.
- When entered this mode by the state that either MASK set of MASK1, setting of MASK1 is off, and MASK 1 starts from MASK OFF (Key1).
- When a key was pressed, follow the required operation after performed the last memory of the current adjustment value.

Caution: In the MASK setting, do not display the OSD.

When other operations were selected, perform OSD display after MASK OFF for two seconds. Then return to selected MASK display.

● Cassification 1 of Input Signal Mode (VIDEO)

| SIG Mode | Signal Type | OSD display | V. Frequency fv (Hz) | H. Frequency fh (Hz) | Display Pixel Number | INPUT5 (DVI input) Correspondence |
|--------------------------------------|---|---|-------------------------|-------------------------|---|---|
| 00・5 00・6 00・7 00・8 00・9 | SDTV・625i (PAL/SECAM) | (100% tentative) 4 : 3 FULL ZOOM WIDE | 50 | 15.6 | 1280 × 768 984 × 768 1280 × 768 1280 × 768 1280 × 768 | × (no-correspondence) |
| 01・5 01・6 01・7 01・8 01・9 | SDTV・625p (PAL・Progressive) | (100% tentative) 4 : 3 FULL ZOOM WIDE | 50 | 31.2 | 1280 × 768 984 × 768 1280 × 768 1280 × 768 1280 × 768 | × (no-correspondence) |
| 02・5 02・6 02・7 02・8 02・9 | SDTV・525i (NTSC/4.43NTSC) | (100% tentative) 4 : 3 FULL ZOOM WIDE | 60 | 15.7 | 1280 × 768 984 × 768 1280 × 768 1280 × 768 1280 × 768 | × (no-correspondence) |
| 03・5 03・6 03・7 03・8 03・9 | SDTV・525p (NTSC・Progressive) | (100% tentative) 4 : 3 FULL ZOOM WIDE | 60 | 31.5 | 1280 × 768 984 × 768 1280 × 768 1280 × 768 1280 × 768 | × (no-correspondence) |
| 11・5 11・7 | HDTV・1125i (1080 number of effective scanning lines) | (100%) FULL | 50 | 28.1 | 1280 × 768 1280 × 768 | × (no-correspondence) |
| 12・5 12・7 | HDTV・1125i (1080 number of effective scanning lines) | (100%) FULL | 60 | 33.8 | 1280 × 768 1280 × 768 | × (no-correspondence) |
| 13・5 13・7 | HDTV・1125i (1035 number of effective scanning lines) | (100%) FULL | 60 | 33.8 | 1280 × 768 1280 × 768 | × (no-correspondence) |
| 14・5 14・7 | HDTV・750p (720 number of effective scanning lines) | (100%) FULL | 60 | 45.0 | 1280 × 768 1280 × 768 | × (no-correspondence) |
| 15・5 15・7 | HDTV・1125p (1080 number of effective scanning lines) | (100%) FULL | 60 | 67.5 | 1280 × 768 1280 × 768 | × (no-correspondence) |

● Classification 2 of Input Signal Mode (PC)

| SIG Mode | Signal Type | OSD Display | V. Frequency v (Hz) | H. Frequency h (Hz) | Display Pixel Number | INPUT5 (DVI input) Correspondence |
|----------------------------|-------------|-----------------------------|------------------------|------------------------|---------------------------------------|---|
| 20 • 2 | 640 × 400 | FULL | 56 | 24.8 | 1280 × 768 | × (non-correspondence) |
| 23 • 2 | 640 × 400 | FULL | 70 | 31.5 | 1280 × 768 | △ (correspond informally) |
| 31 • 0 31 • 1 31 • 2 | 640 × 480 | DOT BY DOT 4 : 3 FULL | 60 | 31.5 | 640 × 480 1024 × 768 1280 × 768 | ○ (correspondence) |
| 32 • 0 32 • 1 32 • 2 | 640 × 480 | DOT BY DOT 4 : 3 FULL | 66 | 35.0 | 640 × 480 1024 × 768 1280 × 768 | △ (correspond informally) |
| 34 • 0 34 • 1 34 • 2 | 640 × 480 | DOT BY DOT 4 : 3 FULL | 72 | 37.9 | 640 × 480 1024 × 768 1280 × 768 | △ (correspond informally) |
| 35 • 0 35 • 1 35 • 2 | 640 × 480 | DOT BY DOT 4 : 3 FULL | 75 | 37.5 | 640 × 480 1024 × 768 1280 × 768 | △ (correspond informally) |
| 36 • 0 36 • 1 36 • 2 | 640 × 480 | DOT BY DOT 4 : 3 FULL | 85 | 43.3 | 640 × 480 1024 × 768 1280 × 768 | △ (correspond informally) |
| 40 • 4 40 • 1 40 • 2 | 800 × 600 | DOT BY DOT 4 : 3 FULL | 56 | 35.1 | 800 × 600 1024 × 768 1280 × 768 | ○ (correspondence) |
| 41 • 0 41 • 1 41 • 2 | 800 × 600 | DOT BY DOT 4 : 3 FULL | 60 | 37.9 | 800 × 600 1024 × 768 1280 × 768 | ○ (correspondence) |
| 44 • 0 44 • 1 44 • 2 | 800 × 600 | DOT BY DOT 4 : 3 FULL | 72 | 48.1 | 800 × 600 1024 × 768 1280 × 768 | △ (correspond informally) |
| 45 • 0 45 • 1 45 • 2 | 800 × 600 | DOT BY DOT 4 : 3 FULL | 75 | 46.9 | 800 × 600 1024 × 768 1280 × 768 | △ (correspond informally) |
| 46 • 0 46 • 1 46 • 2 | 800 × 600 | DOT BY DOT 4 : 3 FULL | 85 | 53.7 | 800 × 600 1024 × 768 1280 × 768 | △ (correspond informally) |
| 55 • 0 55 • 1 55 • 2 | 832 × 624 | DOT BY DOT 4 : 3 FULL | 75 | 49.7 | 832 × 624 1024 × 768 1280 × 768 | △ (correspond informally) |
| 61 • 1 61 • 2 | 1024 × 768 | DOT BY DOT FULL | 60 | 48.4 | 1024 × 768 1280 × 768 | ○ (correspondence) |
| 63 • 1 63 • 2 | 1024 × 768 | DOT BY DOT FULL | 70 | 56.5 | 1024 × 768 1280 × 768 | △ (correspond informally) |
| 65 • 1 65 • 2 | 1024 × 768 | DOT BY DOT FULL | 75 | 60.0 | 1024 × 768 1280 × 768 | △ (correspond informally) |
| 66 • 1 66 • 2 | 1024 × 768 | DOT BY DOT FULL | 85 | 68.7 | 1024 × 768 1280 × 768 | △ (correspond informally) |
| 70 • 2 | 1280 × 768 | DOT BY DOT | 56 | 45.1 | 1024 × 768 | ○ (correspondence) |
| 71 • 2 | 1280 × 768 | DOT BY DOT | 60 | 48.1 | 1024 × 768 | ○ (correspondence) |
| 73 • 2 | 1280 × 768 | DOT BY DOT | 70 | 55.5 | 1024 × 768 | △ (correspond informally) |

| SIG Mode | Signal Type | OSD Display | V. Frequency v (Hz) | H. Frequency h (Hz) | Display Pixel Number | INPUT5 (DVI input) Correspondence |
|----------------------------|-------------|--|------------------------|------------------------|---------------------------------------|---|
| 81 • 1 81 • 2 | 1152 × 864 | 4 : 3 (TYPE) FULL (TYPE) | 60 | 53.7 | 1024 × 768 1280 × 768 | ○ (correspondence) |
| 84 • 1 84 • 2 | 1152 × 864 | 4 : 3 (TYPE) FULL (TYPE) | 72 | 64.9 | 1024 × 768 1280 × 768 | △ (correspond informally) |
| 85 • 1 85 • 2 | 1152 × 864 | 4 : 3 (TYPE) FULL (TYPE) | 75 | 67.5 | 1024 × 768 1280 × 768 | △ (correspond informally) |
| 95 • 1 95 • 2 | 1152 × 870 | 4 : 3 (TYPE) FULL (TYPE) | 75 | 68.7 | 1016 × 768 1280 × 768 | △ (correspond informally) |
| A2 • 1 A2 • 2 | 1152 × 900 | 4 : 3 (TYPE) FULL (TYPE) | 66 | 62.0 | 984 × 768 1280 × 768 | △ (correspond informally) |
| A5 • 1 A5 • 2 | 1152 × 900 | 4 : 3 (TYPE) FULL (TYPE) | 76 | 71.7 | 984 × 768 1280 × 768 | △ (correspond informally) |
| B1 • 1 B1 • 2 | 1280 × 960 | 4 : 3 (TYPE) FULL (TYPE) | 60 | 60.0 | 1024 × 768 1280 × 768 | ○ (correspondence) |
| C1 • 1 C1 • 2 C1 • 3 | 1280 × 1024 | 4 : 3 (TYPE) FULL (TYPE) PARTIAL | 60 | 64.0 | 960 × 768 1280 × 768 1280 × 768 | ○ (correspondence) |
| C5 • 1 C5 • 2 | 1280 × 1024 | 4 : 3 (TYPE) FULL (TYPE) | 75 | 80.0 | 960 × 768 1280 × 768 | × (non-correspondence) |
| C6 • 1 C6 • 2 | 1280 × 1024 | 4 : 3 (TYPE) FULL (TYPE) | 85 | 91.1 | 960 × 768 1280 × 768 | × (non-correspondence) |
| D1 • 1 D1 • 2 | 1600 × 1200 | 4 : 3 (TYPE) FULL (TYPE) | 60 | 75.0 | 1024 × 768 1280 × 768 | × (non-correspondence) |
| D2 • 1 D2 • 2 | 1600 × 1200 | 4 : 3 (TYPE) FULL (TYPE) | 65 | 81.3 | 1024 × 768 1280 × 768 | × (non-correspondence) |
| D3 • 1 D3 • 2 | 1600 × 1200 | 4 : 3 (TYPE) FULL (TYPE) | 70 | 87.5 | 1024 × 768 1280 × 768 | × (non-correspondence) |
| D5 • 1 D5 • 2 | 1600 × 1200 | 4 : 3 (TYPE) FULL (TYPE) | 75 | 93.8 | 1024 × 768 1280 × 768 | × (non-correspondence) |
| D6 • 1 D6 • 2 | 1600 × 1200 | 4 : 3 (TYPE) FULL (TYPE) | 85 | 106.3 | 1024 × 768 1280 × 768 | × (non-correspondence) |
| E1 • 1 E1 • 2 | 852 × 480 | DOT BY DOT FULL | 60 | 31.7 | 852 × 480 1280 × 768 | ○ (correspondence) |

ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

■ RGB Assy

● When repaired

1. Adjustment is impossible if replacing the Matrix IC or AD/PLL/AMP IC.
2. Adjustment is unnecessary in case of others.

● When replaced

White balance adjustment

■ SW POWER SUPPLY Module

● When replaced

No adjustment required.

■ DIGITAL VIDEO Assy

● When repaired

No adjustment required.

● When replaced

1. Adjustment is unnecessary when replacing only the DIGITAL VIDEO Assy.
2. When replaced with RGB Assy simultaneously, remove IC1204 (24LC04(1) SN-TBB) from the former PC Board to replace, and install it to the new PC Board.
3. When use new Assy which replaces it and recovered as service parts once again, replace IC1204 with new IC.

■ Y DRIVE Assy

● When repaired

1. VOFS/VH/IC5V voltage adjustment
2. Timing adjustment of pulse module

● When replaced

1. SUSB ground timing adjustment
2. Panel white balance adjustment

■ X DRIVE Assy

● When repaired

1. VRN voltage adjustment
2. Timing adjustment of pulse module

● When replaced

1. SUSB ground timing adjustment
2. Panel white balance adjustment

■ Video Card (PDA-5002)

● When repaired

1. Y LEVEL adjustment
2. Color difference and TINT adjustment

● When replaced

No adjustment required.

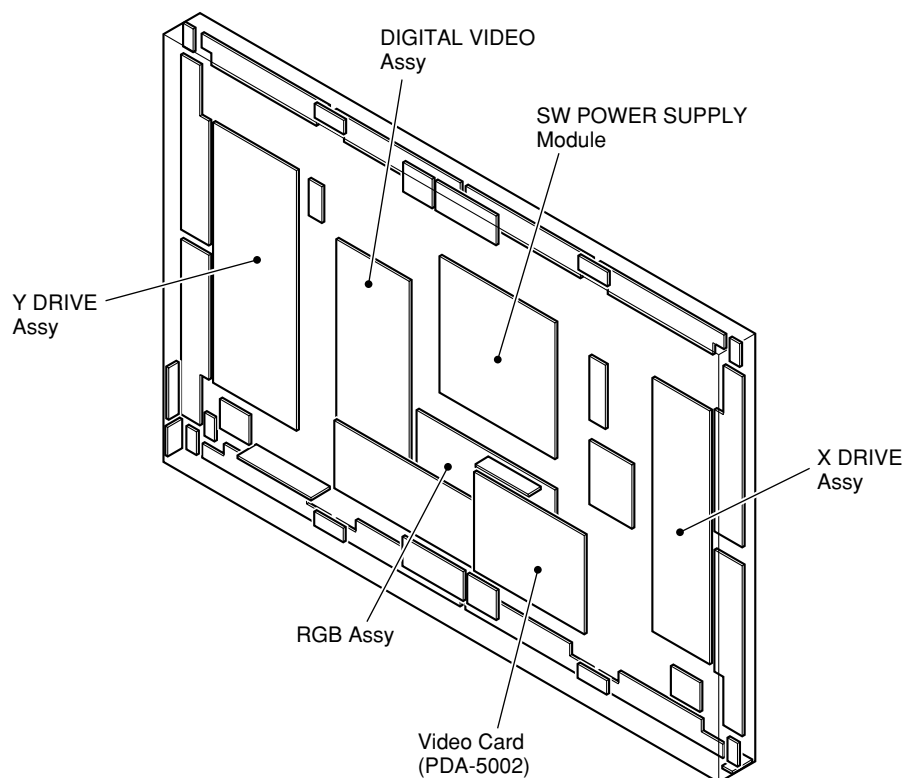


Fig. 1 PC Board Location (rear side view)

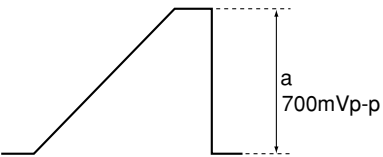
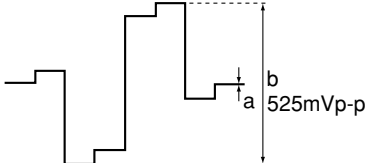
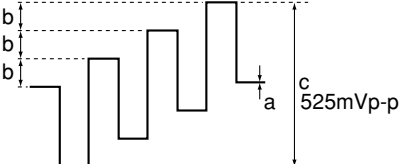
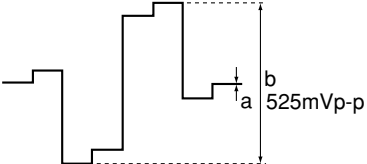
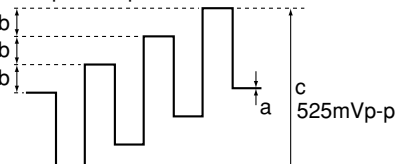
ADJUSTMENT

Video Card Adjustment

- Adjust after replacement of IC's.
- Perform adjustments from step 1 to step 6 every each input signal.

NTSC → PAL → SECAM → 443NTSC → PALM → PALN → NTSC → PAL

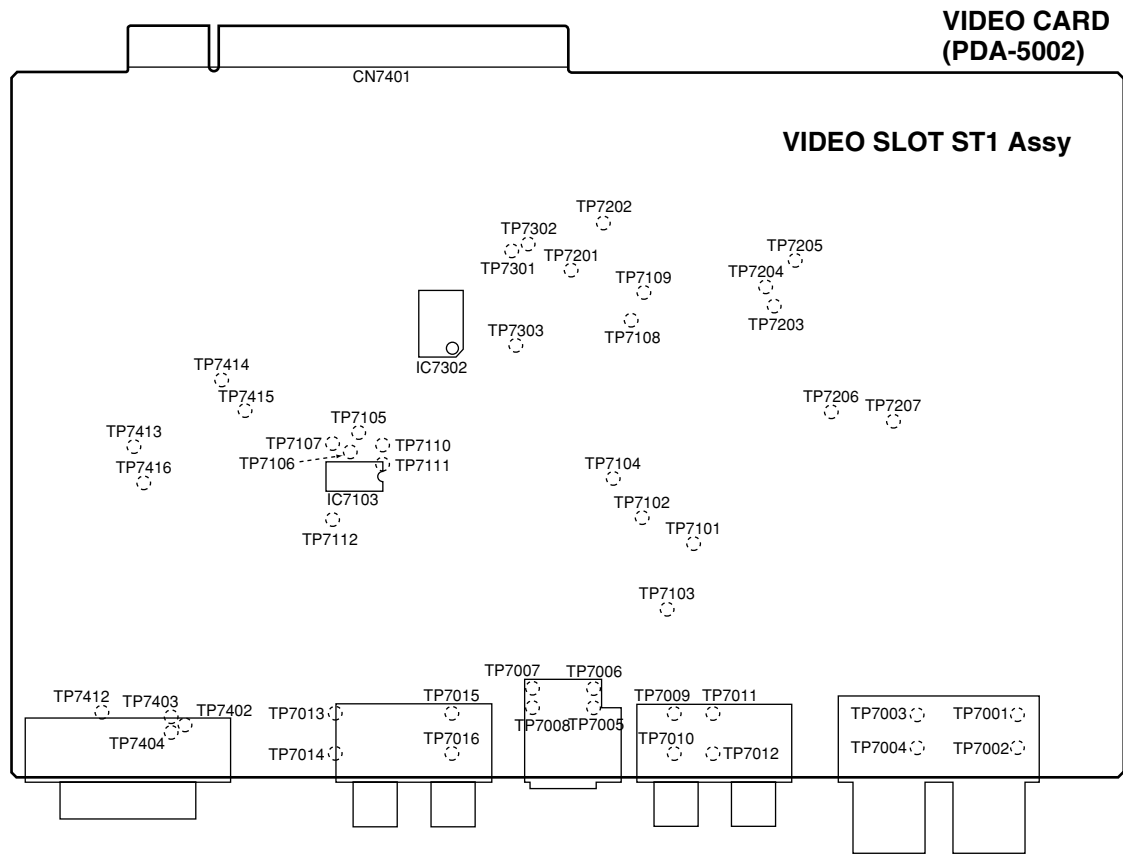
INPUT4 INPUT3

| Step | Adjustment Item | Input Signal | Control | Measuring Point | Adjusting Value | Adjusting Method |
|------|--------------------------------------|--------------|---------|-----------------|-----------------|--|
| 1 | Y Level Adjustment (IC7130)(SA83) | RAMP | IC7302 | CN7401-pin 3 | 700mVp-p | Adjust Level so that the peak to peak of waveform becomes 700 mVp-p.  |
| 2 | R-Y Offset Adjustment (IC7130)(SA88) | Color-Bar | IC7302 | CN7401-pin 7 | 525mVp-p | a: Adjust Offset so that the pedestal level becomes fixed. b: Adjust Level so that the peak to peak of waveform becomes 525 mVp-p.  |
| 3 | B-Y Offset Adjustment (IC7130)(SA88) | Color-Bar | IC7302 | CN7401-pin 5 | 525mVp-p | a: Adjust Offset so that the pedestal level becomes fixed. b: Adjust TINT so that the height ratio of each stair step waveform becomes fixed. c: Adjust Level so that the peak to peak of waveform becomes 525 mVp-p.  |
| 4 | TINT Adjustment (IC7130)(SA80) | | | | | |
| 5 | R-Y Level Adjustment (IC7103)(SA101) | Color-Bar | IC7103 | CN7401-pin 7 | 525mVp-p | a: Adjust Offset so that the pedestal level becomes fixed. b: Adjust Level so that the peak to peak of waveform becomes 525 mVp-p.  |
| 6 | B-Y Level Adjustment (IC7103)(SA100) | Color-Bar | IC7103 | CN7401-pin 5 | 525mVp-p | a: Adjust Offset so that the pedestal level becomes fixed. b: Adjust TINT so that the height ratio of each stair step waveform becomes fixed. c: Adjust Level so that the peak to peak of waveform becomes 525 mVp-p.  |

● Operating Check

After each adjustment was completed, confirm the following signals are output correctly.

- INPUT3 input signal
- INPUT4 input signal
- INPUT5 input signal
- Signal distinction circuit operation
- Audio signal



Adjustment Points

Main Unit Adjustment

■ VOFS/VH/IC5V Voltage Adjustment

| Input Signal | Adjusting Point | Adjusting Method | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---------------------------------|--|-----------------|---------------|-----------------|-----------------|------------|-----------------|--------|-----|----|--------|-------------|----------|--------|-----------|---------|--------|------------|----------|--------|------------|----------|--------|-------------|----------|--------|------------|----------|--------|-------------|----------|--------|-----------|---------|--------|-------------|----------|--------|-------|----|--------|-------------|----------|--------|-----------|---------|--------|-------------|----------|--------|------------|----------|--------|-------------|---------|--------|------------|----------|--------|-------------|----------|--------|-----------|---------|--------|-------------|----------|--------|------|----|--------|-------------|----------|--------|-----------|---------|--------|-------------|---------|--------|------------|----------|--------|-------------|----------|--------|------------|----------|--------|-------------|----------|--------|-----------|---------|--------|-------------|----------|--------|-------|----|--------|-------------|----------|--------|-----------|---------|--------|-------------|----------|--------|------------|----------|--------|------------|----------|--------|------------|----------|--------|-------------|----------|--------|-----------|---------|--------|-----|----|--------|-----|----|--|--|--|
| White 100% | VR2701 (VOFS) (Y DRIVE Assy) | <p>VOFS (Offset voltage) adjustment</p> <p>Method 1</p> <p>1. Write down a adjustment value of V-OFFSET of REF-DIG mode in the factory mode.</p> <p>2. Set this adjustment value to center (128).</p> <p>3. Adjust VR2701 so that the voltage between K2701 (VOFS) and K2703 (SUS GND) becomes 45V.</p> <p>4. Return it to the value that wrote down a adjustment value of V-OFFSET in step 1.</p> <p>Method 2</p> <p>1. Read the adjustment value of V-OFFSET of REF-DIG mode in the factory mode.</p> <p>2. Adjust VR2701 so that the voltage between K2710 (VOFS) and K2703 (SUS GND) becomes following voltage $\pm 0.5V$.</p> <table><thead><tr><th>Input Command</th><th>DAC Output</th><th>Setting Voltage</th><th>Input Command</th><th>DAC Output</th><th>Setting Voltage</th></tr></thead><tbody><tr><td>VOF000</td><td>0.4</td><td>25</td><td>VOF134</td><td>2.599212598</td><td>45.94488</td></tr><tr><td>VOF006</td><td>0.4984375</td><td>25.9375</td><td>VOF141</td><td>2.71496063</td><td>47.04724</td></tr><tr><td>VOF013</td><td>0.61328125</td><td>27.03125</td><td>VOF147</td><td>2.814173228</td><td>47.99213</td></tr><tr><td>VOF019</td><td>0.71171875</td><td>27.96875</td><td>VOF153</td><td>2.913385827</td><td>48.93701</td></tr><tr><td>VOF026</td><td>0.8265625</td><td>29.0625</td><td>VOF160</td><td>3.029133858</td><td>50.03937</td></tr><tr><td>VOF032</td><td>0.925</td><td>30</td><td>VOF166</td><td>3.128346457</td><td>50.98425</td></tr><tr><td>VOF038</td><td>1.0234375</td><td>30.9375</td><td>VOF172</td><td>3.227559055</td><td>51.92913</td></tr><tr><td>VOF045</td><td>1.13828125</td><td>32.03125</td><td>VOF179</td><td>3.343307087</td><td>53.0315</td></tr><tr><td>VOF051</td><td>1.23671875</td><td>32.96875</td><td>VOF185</td><td>3.442519685</td><td>53.97638</td></tr><tr><td>VOF058</td><td>1.3515625</td><td>34.0625</td><td>VOF191</td><td>3.541732283</td><td>54.92126</td></tr><tr><td>VOF064</td><td>1.45</td><td>35</td><td>VOF198</td><td>3.657480315</td><td>56.02362</td></tr><tr><td>VOF070</td><td>1.5484375</td><td>35.9375</td><td>VOF204</td><td>3.756692913</td><td>56.9685</td></tr><tr><td>VOF077</td><td>1.66328125</td><td>37.03125</td><td>VOF211</td><td>3.872440945</td><td>58.07087</td></tr><tr><td>VOF083</td><td>1.76171875</td><td>37.96875</td><td>VOF217</td><td>3.971653543</td><td>59.01575</td></tr><tr><td>VOF090</td><td>1.8765625</td><td>39.0625</td><td>VOF223</td><td>4.070866142</td><td>59.96063</td></tr><tr><td>VOF096</td><td>1.975</td><td>40</td><td>VOF230</td><td>4.186614173</td><td>61.06299</td></tr><tr><td>VOF102</td><td>2.0734375</td><td>40.9375</td><td>VOF236</td><td>4.285826772</td><td>62.00787</td></tr><tr><td>VOF109</td><td>2.18828125</td><td>42.03125</td><td>VOF242</td><td>4.38503937</td><td>62.95276</td></tr><tr><td>VOF115</td><td>2.28671875</td><td>42.96875</td><td>VOF249</td><td>4.500787402</td><td>64.05512</td></tr><tr><td>VOF122</td><td>2.4015625</td><td>44.0625</td><td>VOF255</td><td>4.6</td><td>65</td></tr><tr><td>VOF128</td><td>2.5</td><td>45</td><td></td><td></td><td></td></tr></tbody></table> <p>The symptom is case of mis-adjustment</p> <p>If the VOFS Voltage adjustment is not performed properly, dots like blinking luminance points appear. If deviated greatly from the right adjustment point, panel will light white.</p> | Input Command | DAC Output | Setting Voltage | Input Command | DAC Output | Setting Voltage | VOF000 | 0.4 | 25 | VOF134 | 2.599212598 | 45.94488 | VOF006 | 0.4984375 | 25.9375 | VOF141 | 2.71496063 | 47.04724 | VOF013 | 0.61328125 | 27.03125 | VOF147 | 2.814173228 | 47.99213 | VOF019 | 0.71171875 | 27.96875 | VOF153 | 2.913385827 | 48.93701 | VOF026 | 0.8265625 | 29.0625 | VOF160 | 3.029133858 | 50.03937 | VOF032 | 0.925 | 30 | VOF166 | 3.128346457 | 50.98425 | VOF038 | 1.0234375 | 30.9375 | VOF172 | 3.227559055 | 51.92913 | VOF045 | 1.13828125 | 32.03125 | VOF179 | 3.343307087 | 53.0315 | VOF051 | 1.23671875 | 32.96875 | VOF185 | 3.442519685 | 53.97638 | VOF058 | 1.3515625 | 34.0625 | VOF191 | 3.541732283 | 54.92126 | VOF064 | 1.45 | 35 | VOF198 | 3.657480315 | 56.02362 | VOF070 | 1.5484375 | 35.9375 | VOF204 | 3.756692913 | 56.9685 | VOF077 | 1.66328125 | 37.03125 | VOF211 | 3.872440945 | 58.07087 | VOF083 | 1.76171875 | 37.96875 | VOF217 | 3.971653543 | 59.01575 | VOF090 | 1.8765625 | 39.0625 | VOF223 | 4.070866142 | 59.96063 | VOF096 | 1.975 | 40 | VOF230 | 4.186614173 | 61.06299 | VOF102 | 2.0734375 | 40.9375 | VOF236 | 4.285826772 | 62.00787 | VOF109 | 2.18828125 | 42.03125 | VOF242 | 4.38503937 | 62.95276 | VOF115 | 2.28671875 | 42.96875 | VOF249 | 4.500787402 | 64.05512 | VOF122 | 2.4015625 | 44.0625 | VOF255 | 4.6 | 65 | VOF128 | 2.5 | 45 | | | |
| | Input Command | DAC Output | Setting Voltage | Input Command | DAC Output | Setting Voltage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VOF000 | 0.4 | 25 | VOF134 | 2.599212598 | 45.94488 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF006 | 0.4984375 | 25.9375 | VOF141 | 2.71496063 | 47.04724 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF013 | 0.61328125 | 27.03125 | VOF147 | 2.814173228 | 47.99213 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF019 | 0.71171875 | 27.96875 | VOF153 | 2.913385827 | 48.93701 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF026 | 0.8265625 | 29.0625 | VOF160 | 3.029133858 | 50.03937 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF032 | 0.925 | 30 | VOF166 | 3.128346457 | 50.98425 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF038 | 1.0234375 | 30.9375 | VOF172 | 3.227559055 | 51.92913 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF045 | 1.13828125 | 32.03125 | VOF179 | 3.343307087 | 53.0315 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF051 | 1.23671875 | 32.96875 | VOF185 | 3.442519685 | 53.97638 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF058 | 1.3515625 | 34.0625 | VOF191 | 3.541732283 | 54.92126 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF064 | 1.45 | 35 | VOF198 | 3.657480315 | 56.02362 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF070 | 1.5484375 | 35.9375 | VOF204 | 3.756692913 | 56.9685 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF077 | 1.66328125 | 37.03125 | VOF211 | 3.872440945 | 58.07087 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF083 | 1.76171875 | 37.96875 | VOF217 | 3.971653543 | 59.01575 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF090 | 1.8765625 | 39.0625 | VOF223 | 4.070866142 | 59.96063 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF096 | 1.975 | 40 | VOF230 | 4.186614173 | 61.06299 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF102 | 2.0734375 | 40.9375 | VOF236 | 4.285826772 | 62.00787 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF109 | 2.18828125 | 42.03125 | VOF242 | 4.38503937 | 62.95276 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF115 | 2.28671875 | 42.96875 | VOF249 | 4.500787402 | 64.05512 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF122 | 2.4015625 | 44.0625 | VOF255 | 4.6 | 65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VOF128 | 2.5 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VR2703 (VH) (Y DRIVE Assy) | <p>VH (voltage for scan IC) Adjustment</p> <p>Adjust so that the voltage between K2716 (VH) and K2720 (PSUS) becomes $130V \pm 0.5V$. PSUS (=GNDH) is a floating GND and the electric potential is different from that of chassis GND. Be sure not to short-circuit PSUS (=GNDH) and another GND, because that may damage the unit.</p> <p>The symptom is case of mis-adjustment</p> <p>If the VH adjustment is not performed properly, dots like blinking luminance points appear. If deviated greatly from the right adjustment point, panel will light white.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VR2702 (IC5V) (Y DRIVE Assy) | <p>IC5V Adjustment</p> <p>Adjust so that the voltage between K2707 (IC5V) and K2720 (PSUS) becomes $5.0V \pm 0.1V$. PSUS (=GNDH) is a floating GND and the electric potential is different from that of chassis GND. Be sure not to short-circuit PSUS (=GNDH) and another GND, because that may damage the unit.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Note : Be sure to measure between specified test points. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

■ Sustain Pulse Waveform Adjustment

| Input Signal | Adjusting Point | Adjusting Method |
|--------------|--|---|
| White 100% | REF_DIG mode in Factory mode X-SUS-B : key 9 Y-SUS-B : key 11 | X-SUS-B, Y-SUS-B Adjustment Set to the indicated value with a key on the remote control unit. (Refer to "Timing adjustment of control signal of X and Y Drive Assys".) |

■ VRN Voltage Adjustment

| Input Signal | Adjusting Point | Adjusting Method |
|--------------|--------------------------------|--|
| White 100% | VR3701 (VRN) (X DRIVE Assy) | VRN (minus reset voltage adjustment) Adjust so that the voltage between K3707 (VRN) and K3702 (SUS-GND) becomes $-300V \pm 1.0V$. |

■ Panel White Balance Adjustment

| Input Signal | Adjusting Point | Adjusting Method | | | | | | | | | |
|--------------|-----------------|---|--|----------------|-----------------|---|-----|-----|---|-----|-----|
| | | <p>Adjust the parameter in the OFFSET-DIGITAL of factory mode as follows;</p> <div style="text-align: center;"> <div style="display: inline-block; vertical-align: middle;"> PANEL R-HIGH } PANEL B-LOW </div> </div> <p>In this time, display uses the mask (MASK04) of factory mode.</p> <p>Reference : Adjustment values using the Media color-difference meter (A-100)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th><th>MASK Left Side</th><th>MASK Right Side</th></tr> </thead> <tbody> <tr> <td>x</td><td>295</td><td>291</td></tr> <tr> <td>y</td><td>306</td><td>300</td></tr> </tbody> </table> | | MASK Left Side | MASK Right Side | x | 295 | 291 | y | 306 | 300 |
| | MASK Left Side | MASK Right Side | | | | | | | | | |
| x | 295 | 291 | | | | | | | | | |
| y | 306 | 300 | | | | | | | | | |

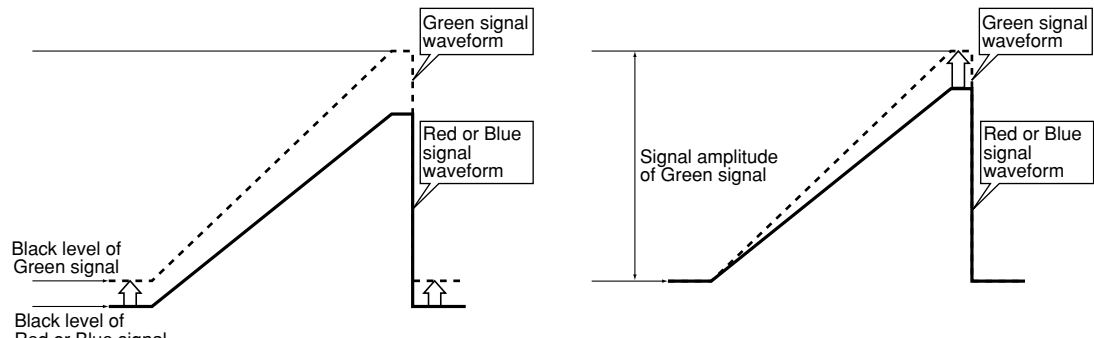
■ Mask Level Adjustment

| Input Signal | Adjusting Point | Adjusting Method |
|--------------|--|--|
| | VIDEO OPTION mode in Factory mode SIDE MASK LEV. R SIDE LEVEL : key 1 G SIDE LEVEL : key 2 B SIDE LEVEL : key 3 | Side mask color / Level Adjustment Set the indicated value with the keys on the remote control unit. |

■ White Balance Adjustment

- Video Card (PDA-5002) is necessary for white balance adjustment for Video signal of RGB Assy.
- Adjust with Video system signal (525i) and RGB (PC VGA) signal.
- Adjust so that the Red and Blue signals becomes the same level and amplitude by reference with Green signal.

| Input Signal | Step | Adjusting Method |
|--------------|------|--|
| Video signal | 1 | Connect a Video card in RGB Assy through a jig cable, and set it in the state that RGB Assy can measure. (Refer to page 133 "Diagnosis of the Video Card (PDA-5002)".) Cannot measure the signal level that does not use a jig cable. Note: Be careful in the direction of connector of a jig cable. |
| | 2 | Input a 525i signal to INPUT1 or INPUT2 with a component signal. A signal pattern is only luminance signal such as lamp signal and a STEP signal. And use the signal which black level (0IRE) and gradation can confirm. Note: May use a standard NTSC Video signal as Y (luminance) signal of component signal. |
| | 3 | In the signal input function (INPUT1 or INPUT2), perform the display mode of VIDEO signal to component. MENU → SETUP → VIDEO SIGNAL : COMPONENT |
| | 4 | Turn to standby once, and perform power supply ON with the factory mode once again. MENU → SET → POWER ON |
| | 5 | Turn ACL SW setting to OFF. INITIALIZE mode ACL SW : 3 key Select OFF by right and left keys. |
| | 6 | Decrease three steps of MAT CONT adjustment value of OFFSET-RGB1. OFFSET mode: Select the RGB 1 mode by top and bottom keys MAT CONT : 1 key Decrease three steps of adjustment value by right and left keys. |
| | 7 | Decrease two steps of MAT BRIGHT adjustment value of OFFSET-RGB1. OFFSET mode: Select the RGB 1 mode by top and bottom keys MAT BRIGHT : 2 key Decrease two steps of adjustment value by right and left keys. |
| | 8 | Take a trigger of oscilloscope with HD_PLL (3.3Vp-p) of K4805. |
| | 9 | Measure a signal waveform of Green signal at K4603, and measure the black level (0IRE) of signal and signal amplitude. |
| | 10 | AD R LOW adjustment Measure the black level (0IRE) of Red signal at K4602, and adjust so that the level of AD R LOW to match the black level (0IRE) of Green signal which measured with step 10. Adjustment error: $\pm 0.05V$ OFFSET mode: Select the RGB 1 mode by top and bottom keys AD R LOW : 9 key Adjust by right and left keys. |
| | 11 | AD R HIGH adjustment Measure the signal amplitude of Red signal at K4602, and adjust so that the level of AD R HIGH to match the signal amplitude of Green signal which measured with step 10. Adjustment error: $\pm 0.05V$ OFFSET mode: Select the RGB 1 mode by top and bottom keys AD R HIGH : 6 key Adjust by right and left keys. |
| | 12 | AD B LOW adjustment Measure the black level (0IRE) of Blue signal at K4604, and adjust so that the level of AD B LOW to match the black level (0IRE) of Green signal which measured with step 10. Adjustment error: $\pm 0.05V$ OFFSET mode: Select the RGB 1 mode by top and bottom keys AD B LOW : 11 key Adjust by right and left keys. |
| | 13 | AD B HIGH adjustment Measure the signal amplitude of Blue signal at K4604, and adjust so that the level of AD B HIGH to match the signal amplitude of Green signal which measured with step 10. Adjustment error: $\pm 0.05V$ OFFSET mode: Select the RGB 1 mode by top and bottom keys AD B HIGH : 8 key Adjust by right and left keys. |

| Input Signal | Step | Adjusting Method |
|-----------------|------|--|
| Video signal | | <ul style="list-style-type: none"> ● Adjust the black level of Red and Blue signals to reference with black level of Green signal ● Adjust the signal amplitude of Red and Blue signals to reference with signal amplitude of Green signal  |
| | 14 | Increase three steps of MAT CONT adjustment value of OFFSET-RGB1. OFFSET mode: Select the RGB 1 mode by top and bottom keys MAT CONT : 1 key Increase three steps of adjustment value by right and left keys. |
| | 15 | Increase two steps of MAT BRIGHT adjustment value of OFFSET-RGB1. OFFSET mode: Select the RGB 1 mode by top and bottom keys MAT BRIGHT : 2 key Increase two steps of adjustment value by right and left keys. |
| | 16 | Turn ACL SW setting to ON. INITIALIZE mode ACL SW : 3 key Select ON by right and left keys. |
| RGB (PC) signal | 1 | Input a RGB (PC) signal to INPUT1 or INPUT2. A signal pattern is only luminance signal such as lamp signal and a STEP signal. And use the signal which black level (0IRE) and gradation can confirm. • Recommended signal: VESA VGA@60Hz |
| | 2 | Turn to standby once, and perform power supply ON with the factory mode once again. MENU → SET → POWER ON |
| | 3 | Take a trigger of oscilloscope with HD_PLL (3.3Vp-p) of K4805. |
| | 4 | Measure the signal waveform of Green signal at K4603, and measure the black level (0IRE) of signal and signal amplitude. |
| | 5 | AD R LOW adjustment Measure the black level (0IRE) of Red signal at K4602, and adjust so that the level of AD R LOW to match the black level (0IRE) of Green signal which measured with step 10 of video signal. Adjustment error: $\pm 0.05V$ OFFSET mode: Select the RGB 1 mode by top and bottom keys AD R LOW : 9 key Adjust by right and left keys. |
| | 6 | AD R HIGH adjustment Measure the signal amplitude of Red signal at K4602, and adjust so that the level of AD R HIGH to match the signal amplitude of Green signal which measured with step 10 of video signal. Adjustment error: $\pm 0.05V$ OFFSET mode: Select the RGB 1 mode by top and bottom keys AD R HIGH : 6 key Adjust by right and left keys. |

| Input Signal | Step | Adjusting Method |
|-----------------|------|--|
| RGB (PC) signal | 7 | AD B LOW adjustment Measure the black level (0IRE) of Blue signal at K4604, and adjust so that the level of AD B LOW to match the black level (0IRE) of Green signal which measured with step 10 of video signal. Adjustment error: $\pm 0.05V$ OFFSET mode: Select the RGB 1 mode by top and bottom keys AD B LOW : 11 key Adjust by right and left keys. |
| | 8 | AD B HIGH adjustment Measure the signal amplitude of Blue signal at K4604, and adjust so that the level of AD B HIGH to match the signal amplitude of Green signal which measured with step 10 of video signal. Adjustment error: $\pm 0.05V$ OFFSET mode: Select the RGB 1 mode by top and bottom keys AD R LOW : 8 key Adjust by right and left keys. |
| | | <div> <div> <p>● Adjust the black level of Red and Blue signals to reference with black level of Green signal</p> </div> <div> <p>● Adjust the signal amplitude of Red and Blue signals to reference with signal amplitude of Green signal</p> </div> </div> |

■ Color Balance Adjustment

| Input Signal | Adjusting Point | Adjusting Method | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|--|--|------|-----|------|------|----|----|---------------|-------------------------------|---|-----|-----|-----|---|-----|-----|-----|---|-----|-----|-----|-------------------------------|---|-----|-----|-----|---|-----|-----|-----|---|-----|-----|------|-------------|----------------------|---|-----|-----|---|---|-----|-----|---|
| Fresh color | REFERENCE1 mode in Factory mode COLOR : key 3 TINT : key 4 | Color Balance Adjustment After adjusting the white balance, check the flesh color of figures in LD still pictures. If the color is not natural, adjust it with the keys on the remote control unit. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Reference : Adjustment values using the Media color-difference meter (A-100) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table><tr><td></td><td></td><td></td><td>NTSC</td><td>HD</td><td>PC</td></tr><tr><td rowspan="6">White Balance</td><td rowspan="3">20% window-step signal (-3dB)</td><td>x</td><td>298</td><td>299</td><td>302</td></tr><tr><td>y</td><td>307</td><td>315</td><td>308</td></tr><tr><td>Y</td><td>6.6</td><td>5.7</td><td>2.9</td></tr><tr><td rowspan="3">80% window-step signal (-3dB)</td><td>x</td><td>293</td><td>292</td><td>297</td></tr><tr><td>y</td><td>309</td><td>312</td><td>319</td></tr><tr><td>Y</td><td>135</td><td>148</td><td>66.2</td></tr><tr><td rowspan="2">Flesh Color</td><td rowspan="2">Window chroma signal</td><td>x</td><td>430</td><td>427</td><td>—</td></tr><tr><td>y</td><td>365</td><td>362</td><td>—</td></tr></table> | | | | NTSC | HD | PC | White Balance | 20% window-step signal (-3dB) | x | 298 | 299 | 302 | y | 307 | 315 | 308 | Y | 6.6 | 5.7 | 2.9 | 80% window-step signal (-3dB) | x | 293 | 292 | 297 | y | 309 | 312 | 319 | Y | 135 | 148 | 66.2 | Flesh Color | Window chroma signal | x | 430 | 427 | — | y | 365 | 362 | — |
| | | | NTSC | HD | PC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| White Balance | 20% window-step signal (-3dB) | x | 298 | 299 | 302 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | y | 307 | 315 | 308 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Y | 6.6 | 5.7 | 2.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 80% window-step signal (-3dB) | x | 293 | 292 | 297 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | y | 309 | 312 | 319 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Y | 135 | 148 | 66.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Flesh Color | Window chroma signal | x | 430 | 427 | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | y | 365 | 362 | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Timing Adjustment of X and Y DRIVE Assys Control Signal

• Adjustment Method

CR delay circuit is each inserted on signal path of four control signals (SUS-U, SUS-B, SUS-D, SUS-G) driving the pulse module.

Quantity of delay can adjust pulse module of one side with VR.

Adjust VR while measuring the waveform of the pulse module, and match timing.

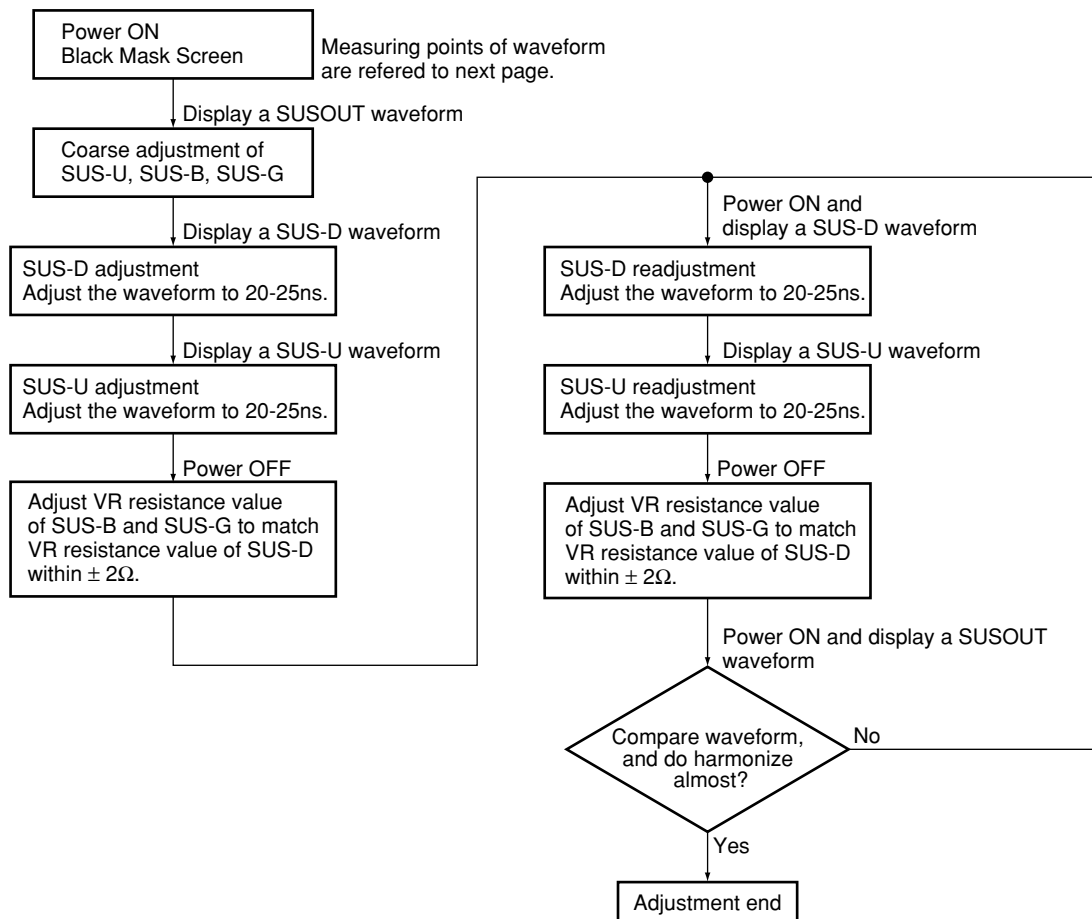
Adjustment VR

| | X DRIVE | Y DRIVE |
|-------|---------|---------|
| SUS-U | VR3203 | VR2204 |
| SUS-D | VR3202 | VR2203 |
| SUS-B | VR3201 | VR2202 |
| SUS-G | VR3200 | VR2201 |

Test pin for adjustment and measurment

| Pulse Module | X DRIVE | | Y DRIVE | |
|--------------|---------|-------|---------|-------|
| | Upper | Lower | Upper | Lower |
| SUSOUT | K3105 | K3106 | K2212 | K2203 |
| SUS-U | K3200 | K3204 | K2220 | K2224 |
| SUS-D | K3108 | K3205 | K2207 | K2225 |

• Adjustment Procedure

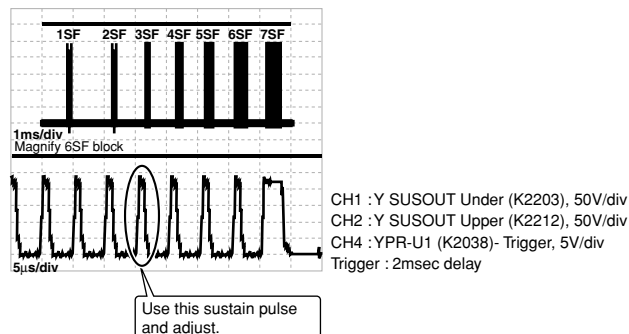


Measuring Waveform of Pulse Module Timing Adjustment

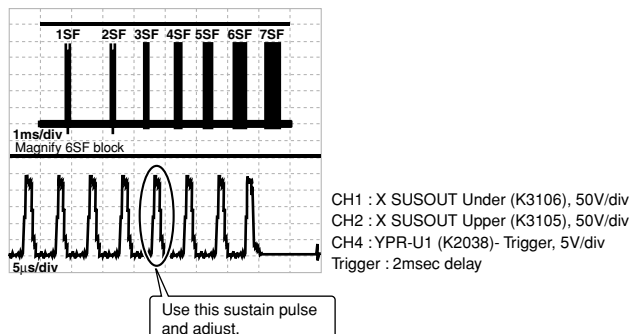
Timing adjustment of the pulse module control signal adjusts with the sustain pulse of eighth pulse (X DRIVE) and the ninth pulse (Y DRIVE) from the back of 6SF.

Measuring point of waveform

Y DRIVE SUSOUT waveform



X DRIVE SUSOUT waveform



- Perform adjustment of waveform with a black mask screen.
- It is easy to adjust when turned field AB offset to OFF (RS-232C command: OCN) in adjustment.

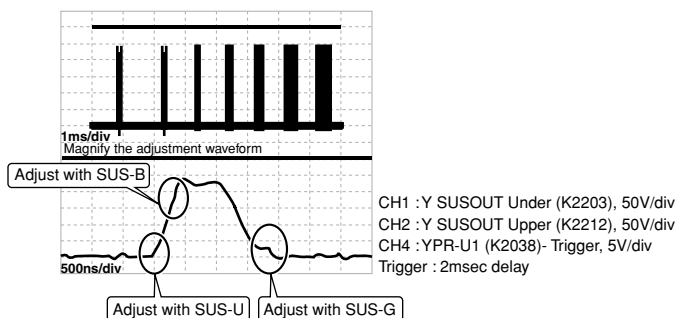
Note:

- Sampling rate of oscilloscope sets it more than 500MS/s in order to perform ns order adjustment.
- Collecting calibration of probe before adjustment by all means.
- Connect GND of probe measuring waveform to SUSGND terminal by all means.
- Precise waveform is not displayed, and an adjustment gap may occur that does not collect GND properly.

When took waveform be each drive Assy unit, measure it at the fourth sustain pulse from the back except for a large width sustain pulse. Therefore, when measured both waveform of the X and Y drives together, it becomes the sustain pulse of 8 and 9 pulses from the back.

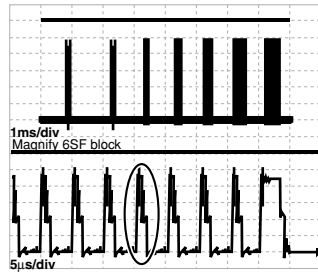
Waveform coarse adjustment

Measure the SUSOUT waveform

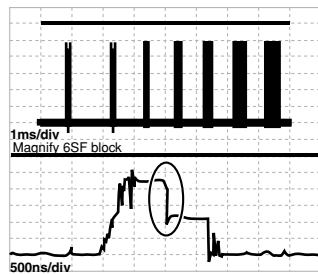


When there is a gap with waveform of CH1 / CH2 of the part which enclosed in the following circle, adjust required VR to overlap the waveform.

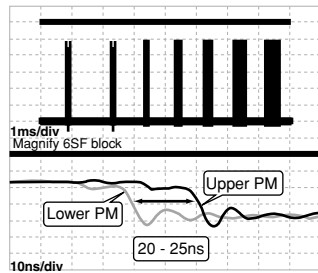
● SUS-D Adjustment (Y DRIVE)



Magnification

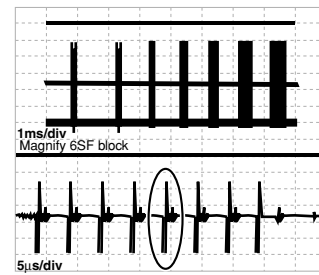


Magnification

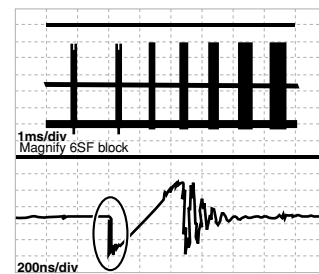


CH1 : Y SUS-D Under (K2225), 50V/div
CH2 : Y SUS-D Upper (K2207), 50V/div
CH4 : YPR-U1 (K2038)- Trigger, 5V/div
Trigger : 2msec delay

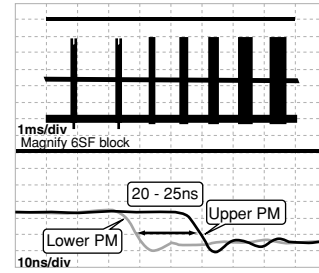
● SUS-U Adjustment (Y DRIVE)



Magnification



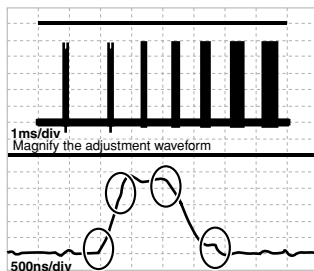
Magnification



CH1 : Y SUS-U Under (K2224), 50V/div
CH2 : Y SUS-U Upper (K2220), 50V/div
CH4 : YPR-U1 (K2038)- Trigger, 5V/div
Trigger : 2msec delay

● Waveform Confirmation in Adjustment completion

Measure the SUSOUT waveform



CH1 : Y SUSOUT Under (K2203), 50V/div
CH2 : Y SUSOUT Upper (K2212), 50V/div
CH4 : YPR-U1 (K2038)- Trigger, 5V/div
Trigger : 2msec delay

Confirm it to waveform of CH1 / CH2 of the part which enclosed in the following circle whether there is not a large gap.
(A gap of the quantity that shifts 20nS and adjusted remains.)

When adjust in the power supply ON state, change so that the quantity of gap that adjusted by temperature-rise of the pulse module becomes small.
Therefore, perform high power OFF (RS-232C command: DRF) except measurement time of waveform when adjusts, and adjustment error by temperature-rise does not occur.

■ SUS-B Ground Timing Adjustment

It is necessary to make this adjustment when replacing the X or Y DRIVE Assy and the pulse module.

● Measurement point and method

Measurement point of waveform of X and Y DRIVE Assy in timing adjustment is test pin of SUSOUT of the pulse module of bottom of the main unit.

X DRIVE Assy : K3106 Y DRIVE Assy : K2203

Measurement screen : White mask

The measurement is easy to perform when turns field AB alternation to OFF. (RS-232C command: OCN)

Measure a sustain pulse of the fourth pulse (X DRIVE) and the fifth pulse (Y DRIVE) from the back of the fourth FS, and adjust. In the start section of this sustain pulse, waveform has inflection point with the timing when SUS-B becomes ON. Adjust so that the voltage of this inflection point is the nearest to 150V and do not become less than 150V.

Adjustment parameter

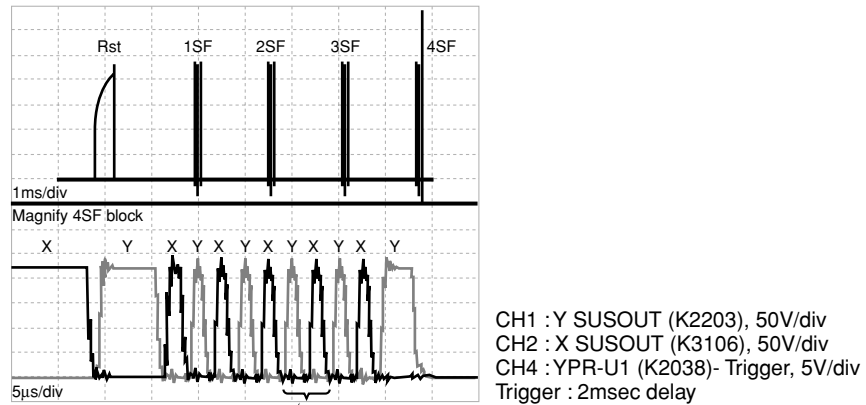
X DRIVE: XSUSB (RS-232C command : XSB)

Y DRIVE: YSUSB (RS-232C command : YSB)

Note:

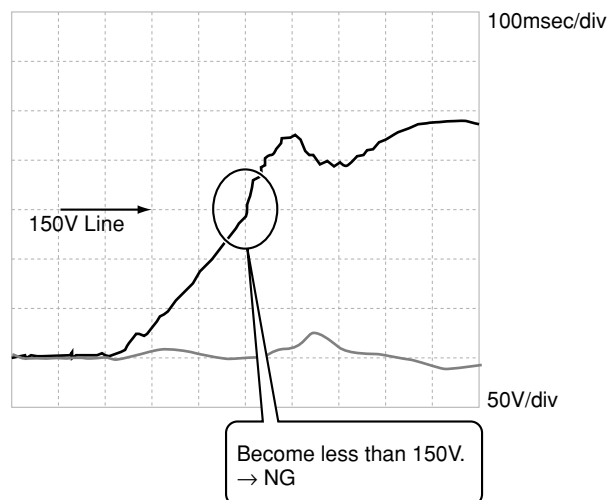
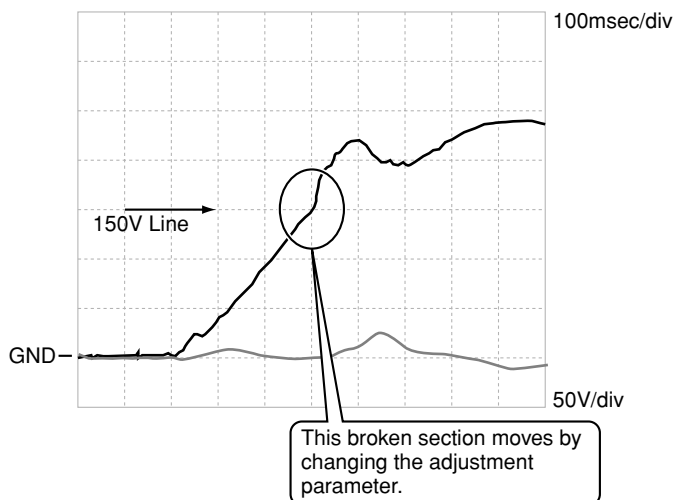
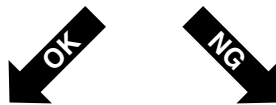
- Connect GND of probe measuring waveform to SUSGND terminal by all means.
- Precise waveform is not displayed, and an adjustment gap may occur that does not collect GND properly.

● Waveform in the measurement

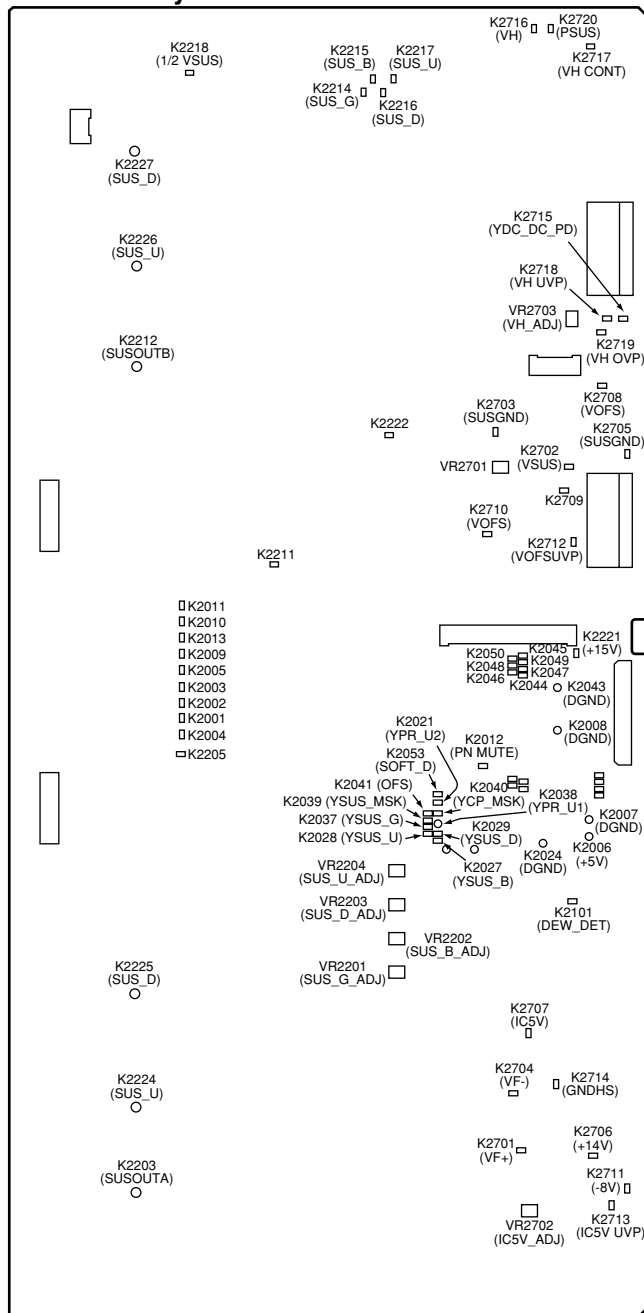


Measure a waveform of this section and adjust.

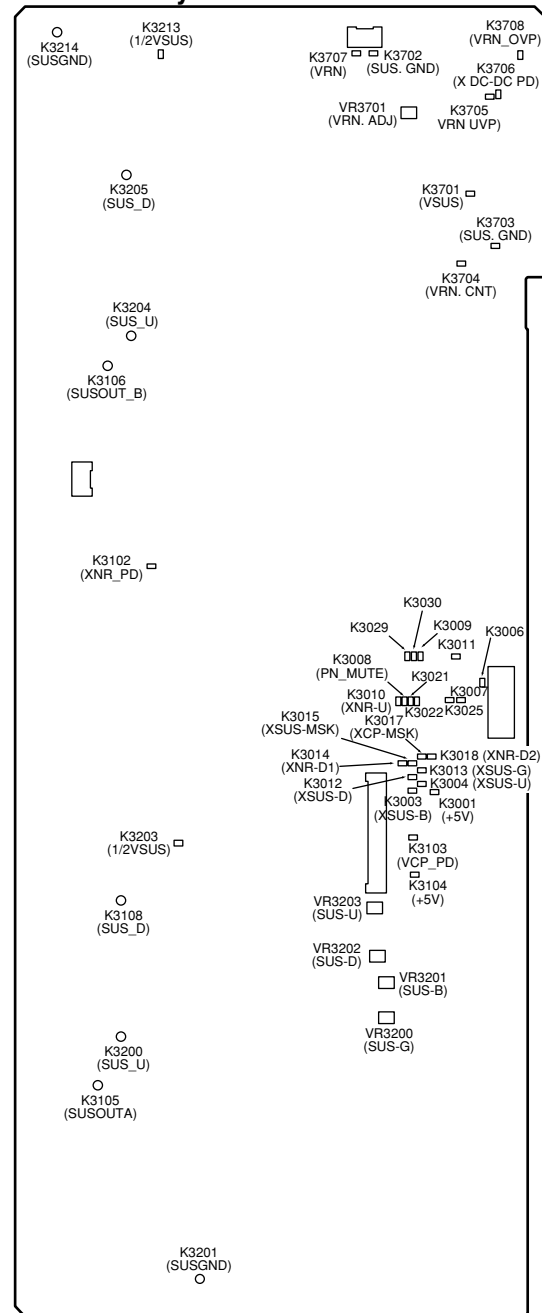
Magnify the fourth pulse sustain pulse (XSUSOUT waveform) from the back of the above waveform.



Y DRIVE Assy



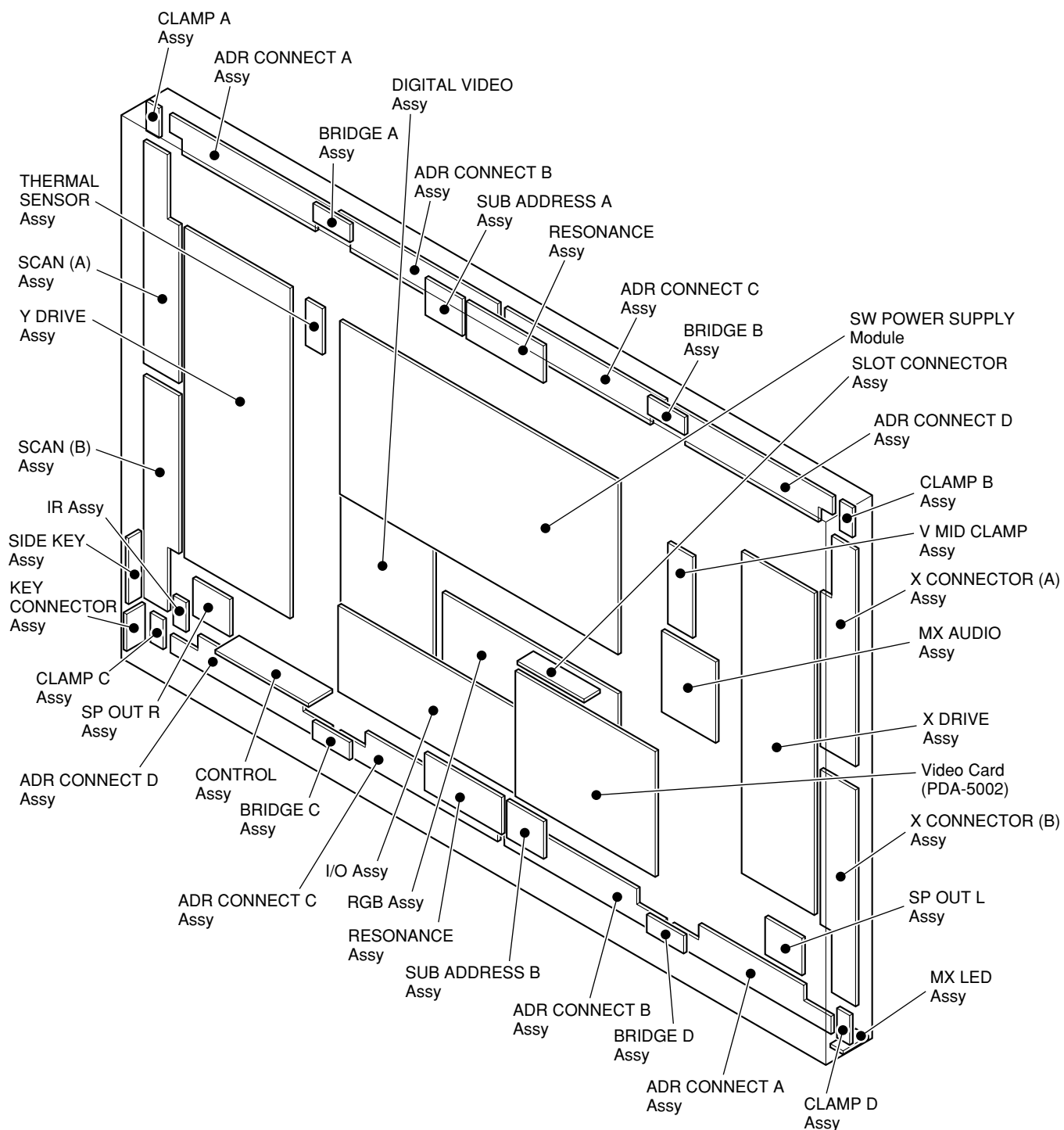
X DRIVE Assy



Adjusting Points

GENERAL INFORMATION

PCB LOCATION



● Rear View

SHUT DOWN/POWER DOWN DIAGNOSIS BY LED DISPLAY

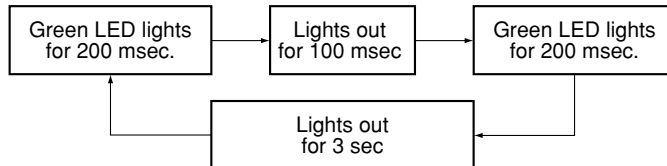
When internal circuit abnormality and other operation abnormality occurred from this unit, self-diagnose display function by STANDBY/ON (LED) indicator is loaded.

Each NG point by LED blinking and a PD (power down) point are as follows.

● Shut Down

- Operations : When a microcomputer detected abnormality, turn the power supply to OFF.
- LED display : Green blinks

Examples: LED blinks in the DIGITAL-IIC communication NG



| Number of blinks | Name |
|------------------|------------------------------|
| 1 | Panel Microcomputer NG |
| 2 | DIGITAL-IIC communication NG |
| 3 | Dewdrop abnormality |
| 4 | Temperature abnormality |
| 5 | FAN abnormality |
| 6 | Module microcomputer NG |
| 7 | Wide microcomputerNG |
| 8 | RGB-IIC communication NG |
| 9 | Audio NG |

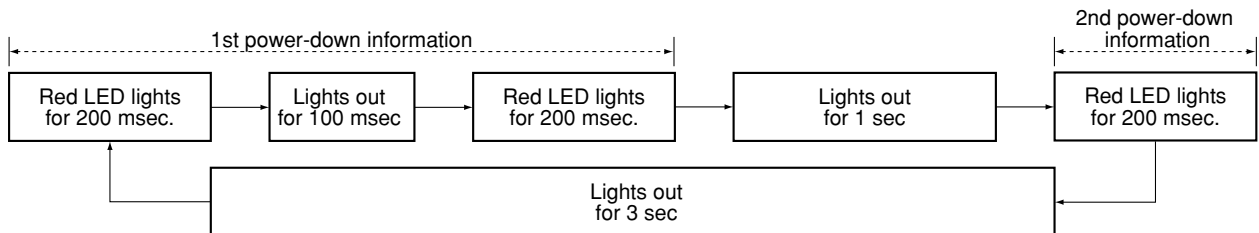
How to release the shut down state

When turn the power supply ON by remote control units, release from the shut down state, and turn the power supply ON.
(It is not necessary to turn the AC power OFF.)

● Power Down

- Operations : When this unit becomes the dangerous state, turn the power supply OFF with the protection circuit.
- LED display : Red blinks
- * When protection circuit more than two places almost worked simultaneously, display LED in order to 1st - 2nd.

Examples: LED blinks in the 1st power down = Y-DC/DC CONVERTER, 2nd power down = Y-DRIVE



| Number of blinks | Name |
|------------------|-------------------------|
| 1 | Y-DRIVE |
| 2 | Y-DC/DC CONVERTER |
| 3 | X-DC/DC CONVERTER |
| 4 | X-DRIVE |
| 5 | Power supply |
| 6 | Address junction |
| 7 | Address resonance |
| 8 | DIGITAL-DC/DC CONVERTER |

How to release the power down state

AC power OFF



Wait for PD LED in the power supply module disappearing (for around 30 seconds).



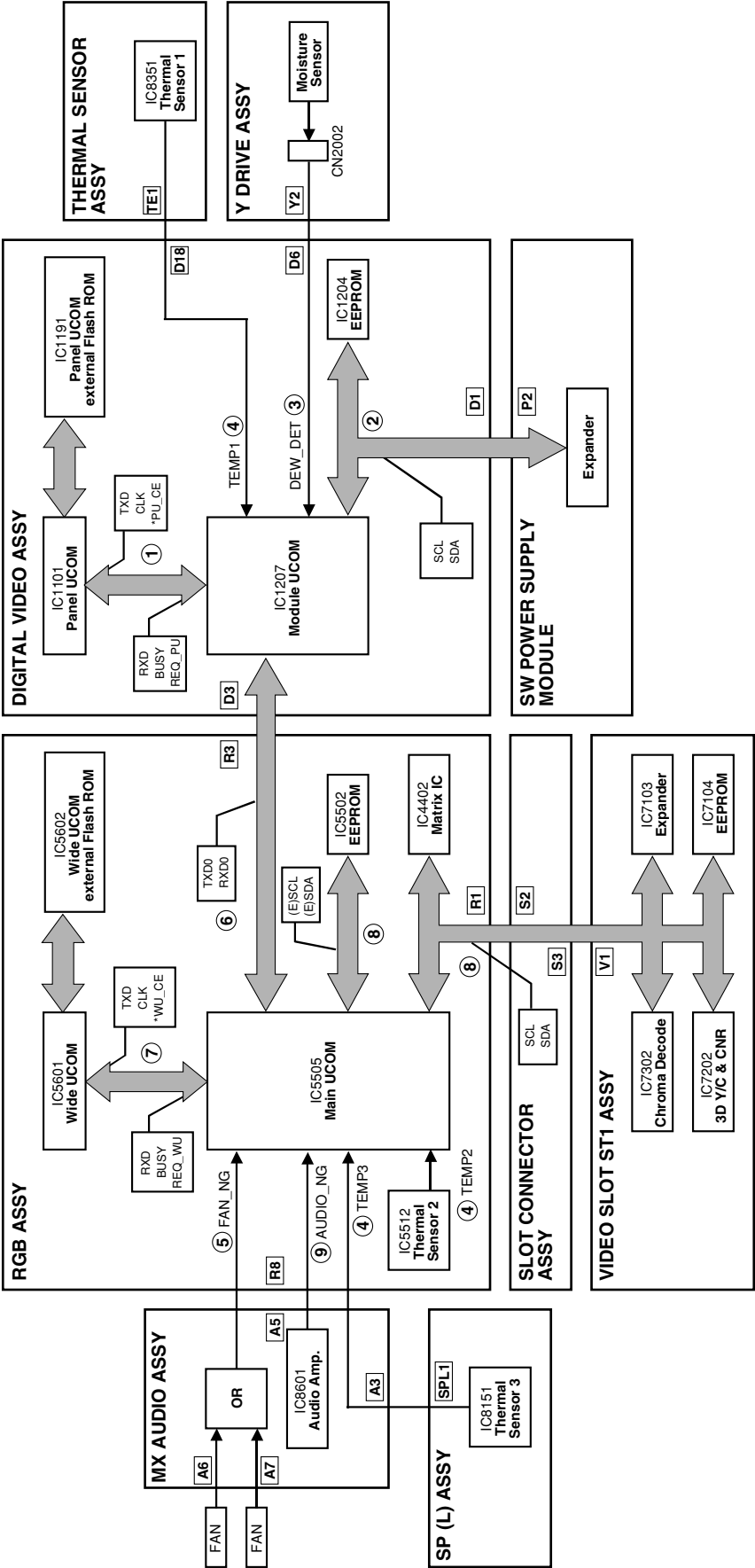
Afterwards, wait moreover for five seconds.



Return by AC power ON.

* After power down release, this unit rises up in the standby state.

● Block Diagram of Shut Down Signal System



Note: ① - ⑧ show LED flashing number of times when shut down occurred in this route.

● Shut down diagnosis

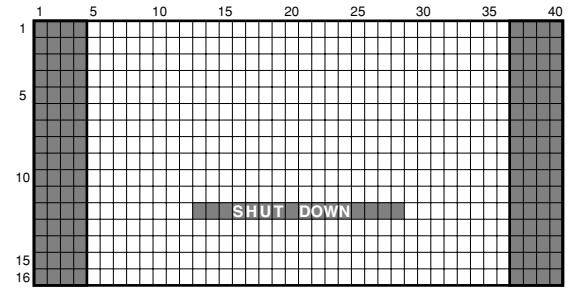
① Panel microcomputer NG

When a module microcomputer failed in communication with a panel microcomputer, this NG occurs.

Shut down after OSD display for 30 seconds from the NG detection.

Abnormality to expect

Open / Short of communication line in the Assy



② DIGITAL-IIC communication NG

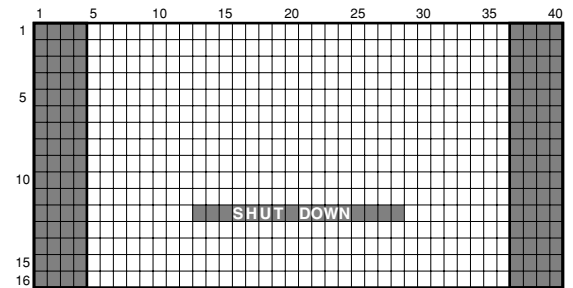
When a module microcomputer failed in communication with outside EEPROM or EXPANDER, this NG occurs.

Shut down after OSD display for 30 seconds from the NG detection.

* However, this communication NG may occur in the standby state.

Abnormality to expect

- Open / Short of communication line in the Assy
- Breaking of wire between DIGITAL VIDEO Assy (D1) and SW POWER SUPPLY Module (P2).



③ Dew drop detection

When it becomes the dew drop state in this unit, this NG occurs.

After the dew drop detection, shut down immediately.

Abnormality to expect for dew drop

Disconnect a connector CN2002 between Dew drop sensor and Y DRIVE Assy.

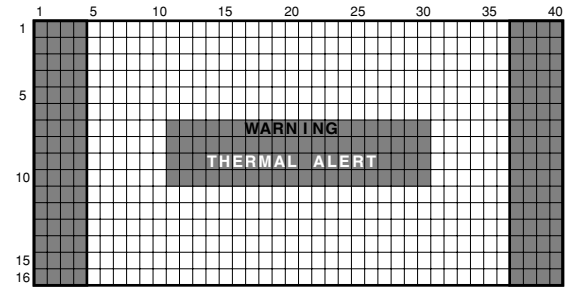
④ Temperature abnormality

When temperature of this unit became abnormally high, this NG occurs.

Shut down after OSD display from the NG detection for 30 seconds.

Abnormality to expect when it occurs in the environment that is not high-temperature

- Disconnect a connector between SP TERMINA (L) Assy (SPL1) and MX AUDIO Assy (A3).
- Disconnect a connector between MX AUDIO Assy (A5) and RGB Assy (R8).
- Disconnect a connector between DIGITAL VIDEO Assy (D18) and temperature sensor 1 (TE1).



Reference

Shut down temperature of each temperature sensor

TEMP2 data ≥ 150 ($\approx 80^{\circ}\text{C}$)

TEMP3 data ≥ 101 ($\approx 56^{\circ}\text{C}$)

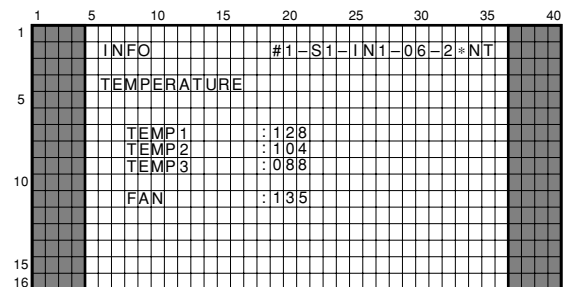
* TEMP1 is not shut down by temperature, and it shuts down when connector was disconnected.

Temperature display by "INFORMATION" of the factory menu

TEMP1 ($^{\circ}\text{C}$) \approx TEMP1 (data) -50

TEMP2 ($^{\circ}\text{C}$) \approx TEMP2 (data) /2+5

TEMP3 ($^{\circ}\text{C}$) \approx TEMP3 (data) /2+5



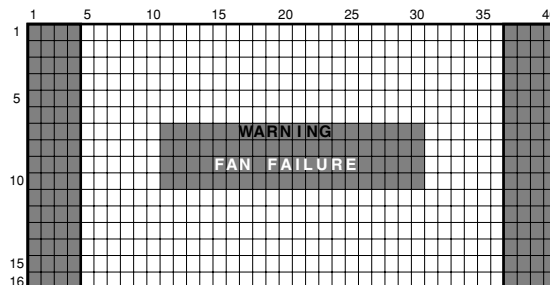
⑤ FAN NG

When a fan does not function, this NG occurs.
Shut down after OSD display for 30 seconds from the NG detection.

- * FAN NG detection functions only in case of following.
 - When FAN CONTROL setting is maximum
 - When sensor temperature of TEMP3 is more than 30°C with FAN CONTROL setting is AUTO.
(even if connector is left when does not turn the FAN, this unit does not work.)

Abnormality to expect

- Disconnect a junction connector between FAN (A6) and MX AUDIO Assy (A7).
- Disconnect a connector between MX AUDIO Assy (A5) and RGB Assy (R8).
- FAN forced stop by an alien substance involving it.

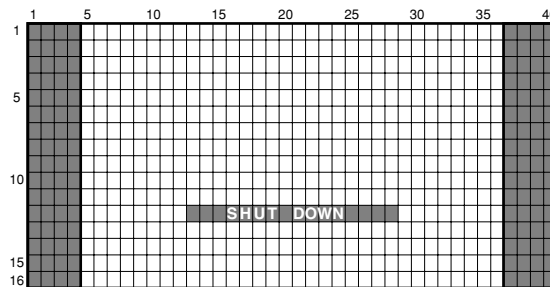


⑥ Module microcomputer NG

When a main microcomputer failed in communication with a module microcomputer, this NG occurs.
Shut down after OSD display for 30 seconds from the NG detection.
* However, this communication NG may occur by the standby state.

Abnormality to expect

- Open / Short of communication line in the Assy.
- Disconnect a connector between RGB Assy (R3) and DIGITAL VIDEO Assy (D3).
- Writing defectiveness of module microcomputer (IC1207) software.

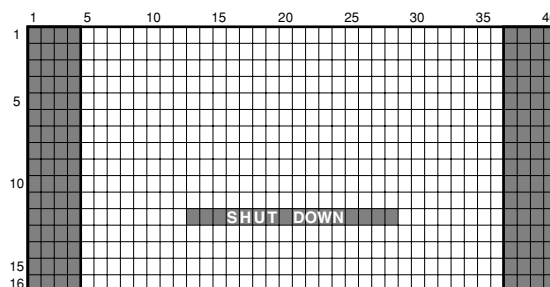


⑦ Wide microcomputer NG

When a main microcomputer failed in communication with a wide microcomputer, this NG occurs.
Shut down after OSD display for 30 seconds from the NG detection.

Abnormality to expect

- Open / Short of communication line in the Assy.
- Software writing defectiveness of wide microcomputer (IC5601).
- Writing defectiveness of outside Flash ROM (IC5602) on the wide microcomputer.



⑧ RGB-IIC communication NG

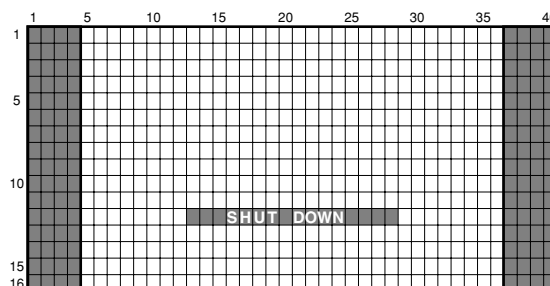
When a main microcomputer failed in IIC communication, this NG occurs.
Shut down after OSD display for 30 seconds from the NG detection.
* However, this communication NG may occur by the standby state.

Abnormality to expect

- Open / Short of communication line in the Assy.
- SLOT and the insertion of the SLOT junction PC Board are incomplete.

Notes: There is the case that it becomes the following symptom except NG when the SLOT insertion is incomplete.

- Audio of INPUT3 and 4 are not output.
- Do not switch from INPUT3 to 5 (SLOT function).
- Video signal of INPUT1 and 2 are not appear.



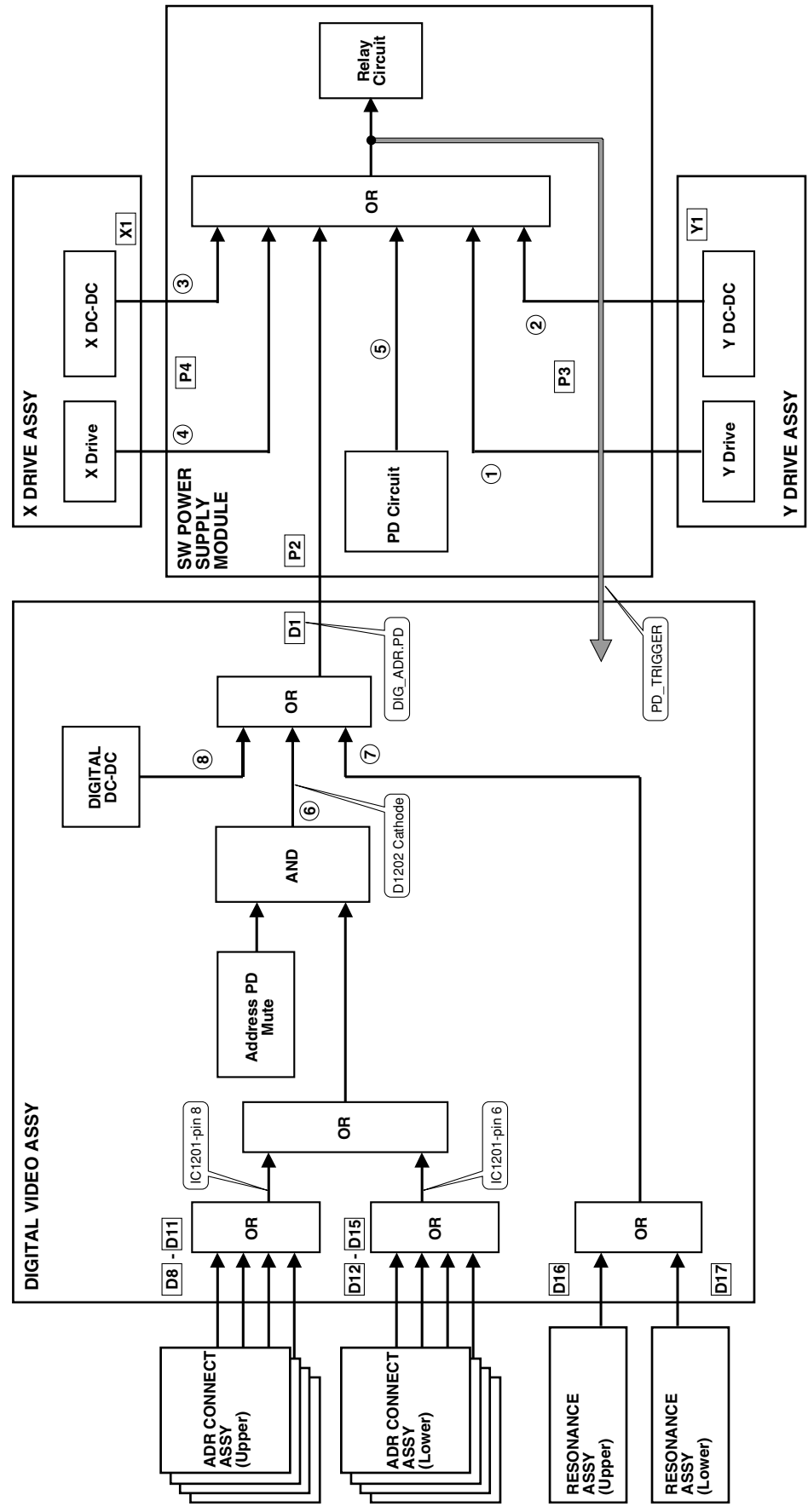
⑨ Audio NG

When DC component added on the speaker output line, this NG occurs.
After the NG detection, shut down immediately.

Abnormality to expect

- Disconnect a connector between MX AUDIO Assy (A5) and RGB Assy (R8).
- Short-circuits between + and - of C8615 and C8622.

● Block Diagram of Power Down Signal System



Note: ① - ⑧ show LED flashing number of times when power down occurred in this route.

● Kind and function of the various protection circuit (P.D. circuit)

| Assy Name | OSD Display | Red LED Number of Blinks | Kind of P.D. Circuit | Function | Remarks |
|------------------------|-------------|--------------------------|----------------------|--|---------|
| Y DRIVE Assy | Y-DRV | 1 | VCP OCP | P.D. by VCP overcurrent | |
| | Y-DDC | 2 | VOFS OVP | P.D. by VOFS overvoltage | |
| | | | VOFS UVP | P.D. by VOFS undervoltage (= overcurrent) | |
| | | | VH OVP | P.D. by VH overvoltage | |
| | | | VH UVP | P.D. by VH undervoltage (= overcurrent) | |
| | | | IC5V UVP | P.D. by IC5V undervoltage (= overcurrent) | |
| X DRIVE Assy | X-DDC | 3 | VRN OVP | P.D. by VRN overvoltage | |
| | | | VRN UVP | P.D. by VRN undervoltage (= overcurrent) | |
| | X-DRV | 4 | VCP OCP | P.D. by VCP overcurrent | |
| | | | RESET OCP | P.D. by reset circuit overcurrent | |
| SW POWER SUPPLY Module | POWER | 5 | VSUS OVP | P.D. by VSUS overvoltage | |
| | | | VSUS UVP | P.D. by VSUS undervoltage (= overcurrent) | |
| | | | VADR OVP | P.D. by VADR overvoltage | |
| | | | VADR UVP | P.D. by VADR undervoltage (= overcurrent) | |
| | | | 15V OVP | P.D. by 15V overvoltage | |
| | | | 15V UVP | P.D. by 15V undervoltage (= overcurrent) | |
| | | | 12V UVP | P.D. by 12V undervoltage (= overcurrent) | |
| | | | 6.5V OVP | P.D. by 6.5V overvoltage | |
| | | | 6.5V UVP | P.D. by 6.5V undervoltage (= overcurrent) | |
| | | | 13.5V UVP | P.D. by 13.5V undervoltage (= overcurrent) | |
| | | | -9V UVP | P.D. by -9V undervoltage (= overcurrent) | |
| | | | +B OVP | P.D. by +B overvoltage | |
| | | | +B OCP | P.D. by +B overcurrent | |
| | | | AC200V P.D. | P.D. by AC200V apply | Note 1 |
| | | | | PFC module overheat protection | |
| | | | | VSUS arc resistance overheat protection | |
| ADR CONNECT Assy | ADRES | 6 | ADR.PD | P.D. by disconnecting the connector | |
| RESONANCE Assy | ADR-K | 7 | ADR.K.PD | P.D. by ICP open and TCP defective | |
| DIGITAL VIDEO Assy | DC-DC | 8 | 5.0V OVP | P.D. by 5V overvoltage | |
| | | | 5.0V UVP | P.D. by 5V undervoltage (= overcurrent) | |
| | | | 3.3V OVP | P.D. by 3.3V overvoltage | |
| | | | 3.3V UVP | P.D. by 3.3V undervoltage (= overcurrent) | |
| | | | 2.5V OVP | P.D. by 2.5V overvoltage | |
| | | | 2.5V UVP | P.D. by 2.5V undervoltage (= overcurrent) | |

Reference

OVP : Over Voltage Protect

UVP : Under Voltage Protect

OCP : Over Current Protect

Note 1: AC200V P.D. is not applicable to the PDP-503MXE model.

● Diagnosis Method in Power Down

1st/2nd/time stamp are stored eight times of power down in the past.

① OSD display of PD history

Display with "INFORMATION" of the factory menu.

| | | | | | | | | |
|---|---|---------|----|-------|----|-------------------|----|----|
| 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| 1 | | INFO | | | | #1-S1-IN4-02-2*NT | | |
| 5 | | PD INFO | | | | | | |
| | | 1ST | | 2ND | | | | |
| | | 1 X-DDC | | | | 05148H25M | | |
| | | 2 ADR-K | | X-DDC | | 02248H14M | | |
| | | 3 Y-DRV | | DC-DC | | 01358H36M | | |
| | | 4 ADRES | | | | 00348H15M | | |
| | | 5 | | | | 00000H00M | | |
| | | 6 | | | | 00000H00M | | |
| | | 7 | | | | 00000H00M | | |
| | | 8 | | | | 00000H00M | | |

Display of PD point

| Power Down Point | OSD Display |
|---------------------------|-------------|
| Y-DRIVE | Y-DRV |
| Y-DC/DC CONVERTER | Y-DDC |
| X-DC/DC CONVERTER | X-DDC |
| X-DRIVE | X-DRV |
| Power supply | POWER |
| ADDRESS junction | ADRES |
| ADDRESS resonance | ADR-K |
| DC/DC CONVERTER (DIGITAL) | DC-DC |

Time stamp display

[OOOOOH] : HOUR, [OOM] : MINUTE

Example)

Time stamp display is [65432H10M] → 65432 hours 10 minutes

② PD history read in by RS-232C command "GPD"

| Order | Data contents | Size |
|-------|----------------------------------|--------|
| 1 | The latest 1st PD point | 1 byte |
| 2 | The latest 2nd PD point | 1 byte |
| 3 | The latest PD time stamp | 7 byte |
| 4 | 1st PD point before twice | 1 byte |
| 5 | 2nd PD point before twice | 1 byte |
| 6 | PD time stamp before twice | 7 byte |
| 7 | 1st PD point before three times | 1 byte |
| 8 | 2nd PD point before three times | 1 byte |
| 9 | PD time stamp before three times | 7 byte |
| 10 | 1st PD point before four times | 1 byte |
| 11 | 2nd PD point before four times | 1 byte |
| 12 | PD time stamp before four times | 7 byte |
| 13 | 1st PD point before five times | 1 byte |
| 14 | 2nd PD point before five times | 1 byte |
| 15 | PD time stamp before five times | 7 byte |
| 16 | 1st PD point before six times | 1 byte |
| 17 | 2nd PD point before six times | 1 byte |
| 18 | PD time stamp before six times | 7 byte |
| 19 | 1st PD point before seven times | 1 byte |
| 20 | 2nd PD point before seven times | 1 byte |
| 21 | PD time stamp before seven times | 7 byte |
| 22 | 1st PD point before eight times | 1 byte |
| 23 | 2nd PD point before eight times | 1 byte |
| 24 | PD time stamp before eight times | 7 byte |

Data of PD point

| Power Down Point | "GPD" Data |
|---------------------------|------------|
| Y-DRIVE | 1 |
| Y-DC/DC CONVERTER | 2 |
| X-DC/DC CONVERTER | 3 |
| X-DRIVE | 4 |
| Power supply | 5 |
| ADDRESS junction | 6 |
| ADDRESS resonance | 7 |
| DC/DC CONVERTER (DIGITAL) | 8 |

Time stamp data

before 5 byte: HOUR, after 2 byte: MINUTE

Example)

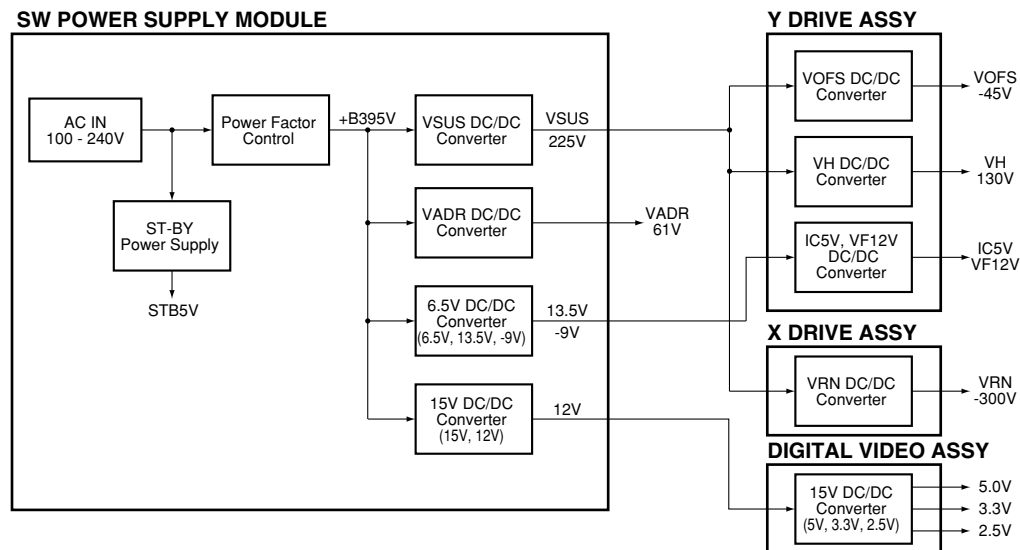
Time stamp is [6543210] → 65432 hours 10 minutes

● Diagnosis of the error point in the various protection circuit (P.D. circuit) operation (Red LED blinks)

| Number of Blinks | P.D. Point in Operation | Error Pont | Possible Part of Error | Circuit State | Operation P.D. Circuit | Diagnosis Condition |
|------------------|-------------------------|--|---|---------------|------------------------|--|
| 1 | Y DRIVE | Y DRIVE Assy | IC2206, IC2214 (Pulse module), IC2203, IC2204, IC2212, IC2213, IC2213, IC2217, R2209 | K2211 Lo | VCP OCP | |
| | | VOFS D/D CONV. BLOCK (Y DRIVE Assy) | IC2702, IC2709, IC2715 | K2712 Lo | VOFS OVP | |
| | | VOFS D/D CONV. BLOCK (Y DRIVE Assy) | IC2701, IC2702, IC2709, IC2715 | K2709 Lo | VOFS UVP | Drive section (control signal, output elements etc.) in normal operation |
| | | VH D/D CONV. BLOCK (Y DRIVE Assy) | Q2211, Q2212, R2277, IC2208, IC2210 | K2719 Lo | VH OVP | VOFS D/D CONV. BLOCK in normal operation |
| 2 | Y DC DC | VH D/D CONV. BLOCK (Y DRIVE Assy) | IC2712, IC2716 | | | Drive section (control signal, output elements etc.) in normal operation |
| | | SCAN (A), (B) Assy | IC2711, IC2712, IC2716 | | | VH D/D CONV. BLOCK in normal operation |
| | | IC5V D/D CONV. BLOCK (Y DRIVE Assy) | SCAN IC | K2718 Lo | VH UVP | SCAN Assy in normal operation |
| | | SCAN (A), (B) Assy | IC2704, IC2706, IC2717 | | | IC5V D/D CONV. BLOCK in normal operation |
| | | IC5V D/D CONV. BLOCK (Y DRIVE Assy) | SCAN IC | K2713 Lo | IC5V UVP | SCAN Assy in normal operation |
| 3 | X DC DC | VRN D/D CONV. BLOCK (X DRIVE Assy) | IC2704, IC2706, IC2717 | K3708 Lo | VRN OVP | |
| | | VRN D/D CONV. BLOCK (X DRIVE Assy) | IC3702, IC3712 | | | Drive section (control signal, output elements etc.) in normal operation |
| | | VRN D/D CONV. BLOCK (X DRIVE Assy) | IC3701, IC3702, IC3712 | K3705 Lo | VRN UVP | VRN D/D CONV. BLOCK in normal operation |
| 4 | X DRIVE | X DRIVE Assy | Q3122 | K3103 Lo | VCP OCP | |
| | | X DRIVE Assy | IC3200, IC3201 (pulse module), IC3103, IC3104, IC3106, IC3107, IC3110, IC3113, R3109 | K3102 Lo | VRN OCP | |
| | | X DRIVE Assy | Q3122 | | | When P4 connector disconnected, P.D. does not occur |
| | | Y DRIVE Assy | IC3200, IC3201 (Pulse module) | | | When P3 connector disconnected, P.D. does not occur |
| | | MX AUDIO Assy | IC2206, IC2214 (Pulse module) | | | When P6 connector disconnected, P.D. does not occur |
| 5 | PS | ADDRESS CONNECT A - D Assy, RESONANCE Assy, D/D CONV. BLOCK (DIGITAL VIDEO Assy) | IC8601 (Audio IC) | | | When pin 5 of P2 connector disconnected, P.D. does not occur |
| | | SW POWER SUPPLY Module | SW POWER SUPPLY Module | | | When the voltage is not output even if P4, P3 and P6 connectors disconnected |
| 6 | ADR | ADDRESS CONNECT A-D Assy | Disconnect D8 - D15 connector/s | | ADR. PD | |
| 7 | ADR K | RESONANCE Assy | TCP damage of IC6704 (ICP), disconnect D16 and D17 connectors, panel microcomputer is defective, outside Flash ROM of the panel microcomputer is defective. | | ADR. K. PD | |
| 8 | DIGITAL DC DC | D/D CONV. BLOCK (DIGITAL VIDEO Assy) | IC1901 | K1901 Lo | 5.0V OVP | |
| | | D/D CONV. BLOCK (DIGITAL VIDEO Assy) | IC1901 | K1902 Lo | 5.0V UVP | |
| | | D/D CONV. BLOCK (DIGITAL VIDEO Assy) | IC1901 | K1903 Lo | 3.3V OVP | |
| | | D/D CONV. BLOCK (DIGITAL VIDEO Assy) | IC1901 | K1904 Lo | 3.3V UVP | |
| | | D/D CONV. BLOCK (DIGITAL VIDEO Assy) | IC1901 | K1905 Lo | 2.5V OVP | |
| | | D/D CONV. BLOCK (DIGITAL VIDEO Assy) | IC1901 | K1906 Lo | 2.5V UVP | |

Note: About PS PD
The condition that Red LED blinks five times (power supply PD)
1 When the internal protection circuit of SW POWER SUPPLY Module worked
2 When a microcomputer was not able to identify the PD point
↓
Being careful because the protection circuit of SW POWER SUPPLY Module cannot conclude that worked.

● Block diagram for Power supply section



● Supplementary information

1. Power on/off switch for the large-signal system (SW102)

Function: Only the power for the small-signal system (15V, 12V, 6.5V, 13.5V, and -9V) is on, and the power for the large-signal system (VSUS, VADR) is off.

Usage: Use when only an operational check for the small-signal system is required.

Supplementary information:

When this switch is to be used, the wires of pin 5 (DIG, ADR, and PD) of the P2 connector of the power-supply module should be disconnected to prevent the PD circuit from operating. To turn the power of the large-signal system off without using this switch, operation from an external PC through RS-232C commands "DRF" is basically required. In this case, the above procedure is not required, as the PD circuit is muted by software.

Method of power supply ON in the large signal system OFF state with RS-232C command

- ① Confirm that this unit is the standby state.
 - ② Transmit RS-232C command "DRF."
 - ③ Turn the power supply ON by remote control unit, side key or command "PON."
- * When turn the power supply OFF once, return to setting of large signal system ON.
When turn the power supply ON in the large signal system OFF, transmit "DRF" command each time.

2. 200V AC power-down switch (SW101)

Function: While 200V AC voltage is applied, operation of the PD circuit is turned on and off (ON when the switch is set to 100V AC, and OFF when the switch is set to 200V AC).

Setting: For the MXE model only, the switch is set to 200V, and for other models, it is set to 100V.

3. Temperature compensation of the VOFS voltage for the drive system

Function: Control the power supply voltage mentioned above according to temperature. (Temperature compensation works so that the voltage is lowered on the lower-temperature side, and is raised on the higher-temperature side.)

Purpose: To improve the yield by compensating the temperature characteristics of the panel.

Supplementary information:

For this model, temperature compensation is performed only for the VOFS voltage, and not for the VSUS voltage, and it is controlled by software.

4. When a fuse blows

- If a fuse blows, never turn the power on again only after replacing the fuse. (In most cases, the fuse itself did not have any problem. So as long as factors of overcurrent have not been removed, chances of destruction increase every time the power is turned on. In the worst case, about a dozen parts may be destroyed.)
- Principally, the whole power-supply module must be replaced.

5. Voltage adjustment of the panel drive

As this model employs the electronic VR system for the VSUS and VOFS voltages, and as the voltage-adjustment data are stored in the DIGITAL assembly, voltage adjustment of the panel drive is not necessary when the power-supply modules are changed. (For VADR, VH, and VRN, adjustments with semifixed VR controls are necessary.)

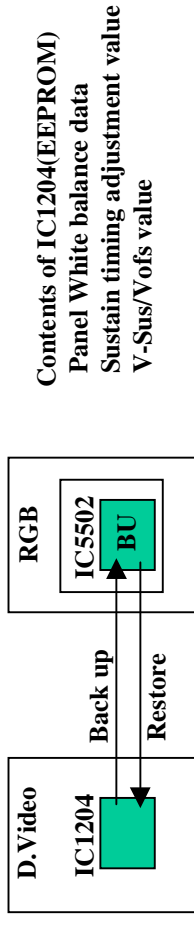
For this model, as the power-supply block has been developed and designed by an outside vendor, at the point you know which module is a cause of failure (through diagnosis described elsewhere in this manual), change the corresponding modules, and do not diagnose or repair the module.

Similarly, the switches and the semifixed VRs inside the power-supply module must not be adjusted without a special reason.

Adjustment know-how

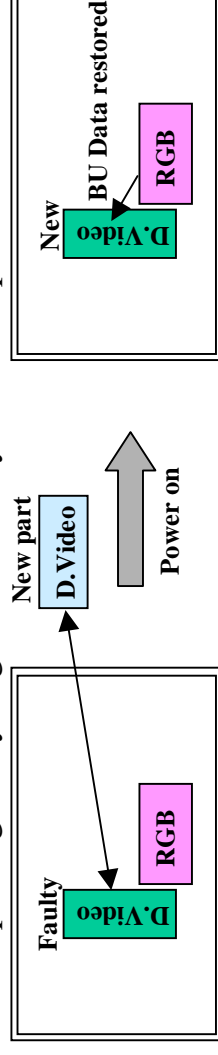
- Digital video adjustment data back up function
- SM page 136 to 137 -

PDP-503MXE has function to backup adjustment data of digital video assy into EEPROM located on the RGB assy.



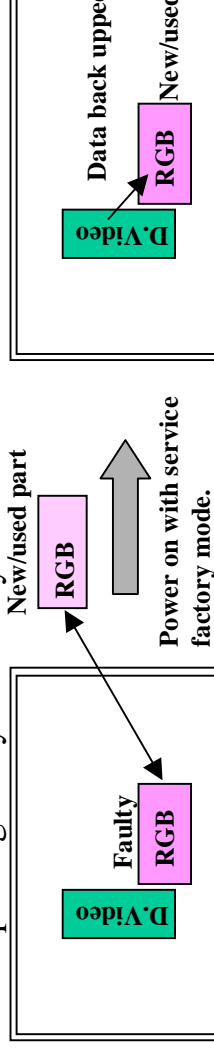
It is possible to restore backup data from RGB assy to digital video assy, when digital video assy is replaced.

Case 1: When replacing faulty Digital video assy with new part.



Back up data in the RGB assy will be restored to New digital video assy just by turning on the power.

Case 2: When replacing faulty RGB assy .

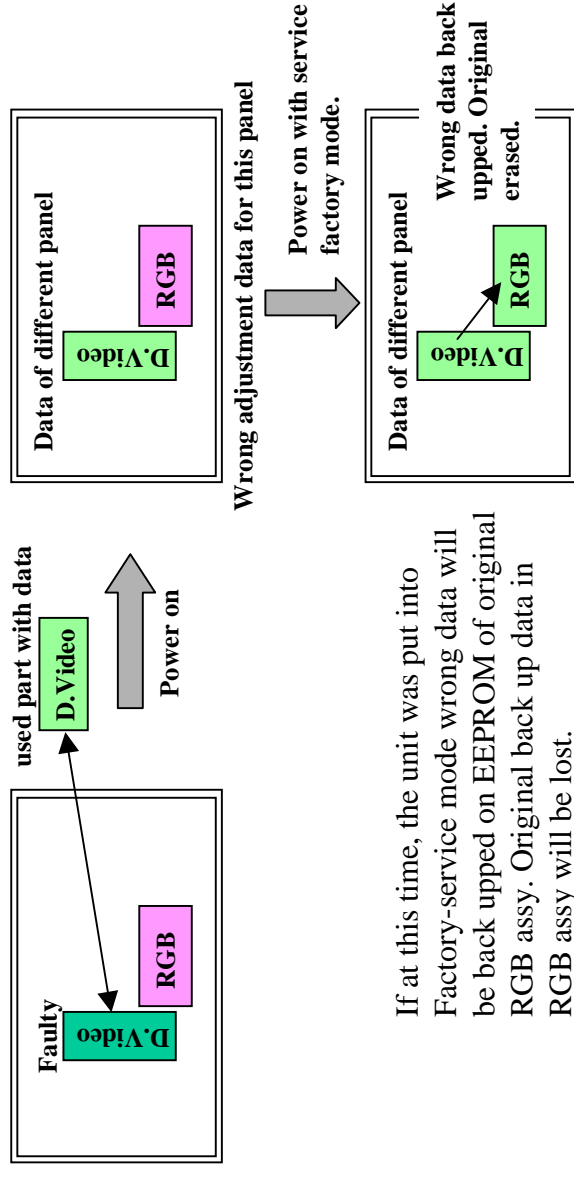


Data from D.Video assy is back upped to RGB assy by entering the service factory mode.

Adjustment know-how

- Digital video adjustment data back up function
- SM page 136 to 137 -

* Case 3: When replacing faulty Digital video assy with used part.



To avoid this !! When you are using digital video assy from other PDP unit, it is necessary to initialize EEPROM of Digital video assy before removing it.

How to initialize the ROM.

Set the unit into service factory mode. Select menu [INIT] then [SERVICE PART]. Push [SET] and EEPROM in the Digital video assy will be initialized.

